

# EXHIBIT 35

IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF NORTH CAROLINA

SOUTHERN DIVISION

Civil Action No. 7:23-cv-00897

IN RE: CAMP LEJEUNE WATER LITIGATION

THIS DOCUMENT RELATES TO:  
ALL CASES

VIDEOTAPED

DEPOSITION OF: MORRIS MASLIA

DATE: September 26, 2024

TIME: 9:22 a.m.

LOCATION: BELL LEGAL GROUP  
219 North Ridge Street  
Georgetown, SC

TAKEN BY: Counsel for the Defendants

REPORTED BY: Lauren A. Balogh, RPR

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15 ALSO PRESENT:

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18 Deanna Havai, Motley Rice  
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19 Alex Spiliotopoulos  
20 (Via videoconference)  
21 Mona Lisa Wallace  
(Via videoconference)  
22  
23

24 (INDEX AT REAR OF TRANSCRIPT)  
25

1 THE VIDEOGRAPHER: We're now on record.  
2 Today's date is September 26th, 2024 and the time  
3 is 9:22 a.m. This is the video deposition in  
4 regards to the Camp Lejeune water litigation Case  
5 No. 7:23-CV-00897 per the U.S. District Court for  
6 the Eastern District of North Carolina. Our  
7 deponent today is Morris Maslia.

8 THE WITNESS: Maslia.

9 THE VIDEOGRAPHER: Maslia. Thank you.  
10 Morris Maslia.

11 Will our court reporter please swear in  
12 our witness.

13 MORRIS MASLIA  
14 being first duly sworn, testified as follows:

15 EXAMINATION

16 BY MR. ANWAR:

17 Q. Good morning, Mr. Maslia.

18 A. Good morning.

19 Q. I would like to -- and thank you for  
20 your patience while we worked out the technical  
21 issues. I would like to start by having you state  
22 and spell your full name for the record as well as  
23 provide your address.

24 A. Okay. My first name is Morris,  
25 M-O-R-R-I-S. Middle name Lavi, L-A-V-I. Last name

1 Maslia, M-A-S-L-I-A. My address is 3360 Norfolk,  
2 N-O-R-F-O-L-K, Chase, C-H-A-S-E, Drive, Peachtree  
3 Corners, Georgia 30092, USA.

4 Q. Thank you. My name is Haroon Anwar.  
5 I'm an attorney with the U.S. Department of  
6 Justice. I'm here to take your deposition today as  
7 it --

8 MR. ANWAR: It looks like it says the  
9 Zoom is muted. I'm sorry. Good?

10 MR. DEAN: Giovanni needs to turn off  
11 his mic.

12 MR. ANWAR: Okay. Good? All right.  
13 BY MR. ANWAR:

14 Q. I'll start over. My name is Haroon  
15 Anwar. I'm here with the U.S. Department of  
16 Justice along with my colleague, Giovanni  
17 Antonucci. I'm here to take your deposition today  
18 related to the Camp Lejeune Justice Act Litigation.  
19 Do you understand that?

20 A. Yes, I do.

21 Q. Okay.

22 MR. DEAN: Before we go further, we  
23 really need to introduce ourselves on the record.  
24 This is Kevin Dean on behalf of the plaintiffs.

25 MR. ANWAR: Sure.

1 MS. BAUGHMAN: Laura Baughman on behalf  
2 of plaintiffs.

3 MR. ROBERTS: Jim Roberts appearing on  
4 behalf of the plaintiffs.

5 MR. DEAN: Can we also have identified  
6 on the record the DOJ attorneys present both on the  
7 record -- I mean, in the room and on the -- on the  
8 Zoom call, if any, and any representatives.

9 MR. ANWAR: I'm happy to do that. I  
10 think we had discussed just noting them on the  
11 stenographic record so we don't have to spend the  
12 time, but in the room is myself and my colleague,  
13 Giovanni Antonucci. Then on behalf of ATSDR here  
14 is Justine Walters. And then I don't have the list  
15 of everyone on the Zoom with me, but...

16 MR. DEAN: Is there any experts or  
17 other consultants with the DOJ appearing for this  
18 deposition?

19 MR. ANWAR: Yes, the same gentleman  
20 that appeared at the last deposition of  
21 Mr. Sautner.

22 MR. DEAN: Okay. And what was his  
23 name, remind me.

24 MR. ANWAR: It was Alex --

25 MR. DEAN: Yeah, Alex.

1 MR. ANWAR: Yeah.

2 MR. DEAN: I remember.

3 MS. BAUGHMAN: What's the last name?

4 MR. ANWAR: It's Spiliotopoulos.

5 MR. DEAN: Thank you.

6 MR. ANWAR: Okay. Good?

7 BY MR. ANWAR:

8 Q. Now, I understand that you've provided  
9 at least one deposition before, so you may -- you  
10 may know the rules already, so forgive me if I'm  
11 sort of repeating myself, but I just want to go  
12 over the basics of deposition taking or deposition  
13 -- for a deposition so that the deposition will be  
14 -- can be as smooth as possible today.

15 The first and foremost rule is that you  
16 are under the same oath to tell the truth as if you  
17 were in an actual court of law. Do you understand  
18 that?

19 A. Yes, I do.

20 Q. Okay. Is there any reason, as you sit  
21 here today, that you would be unable to testify  
22 truthfully?

23 A. No.

24 Q. Okay. If you don't hear me ask my  
25 question or if I ask a confusing question or an



1     unclear question, which is very likely given some  
2     of the topics we get into today, would you please  
3     let me know?

4             A.     Yes.

5             Q.     Okay.  Otherwise, I'll assume you --  
6     you understood my question, fair?

7             A.     Fair.

8             Q.     Okay.  For the court reporter's sake,  
9     could you please respond verbally.  The head nods  
10    and head shakes and those types of things just  
11    don't show up on the record.

12            A.     Understood.

13            Q.     Okay.  And also for the court  
14    reporter's sake, can you please wait for me to  
15    finish my question before responding.  That way our  
16    court reporter isn't trying to type people speaking  
17    over each other.

18            A.     Yes, sir.

19            Q.     Okay.  Thank you.  And finally, I  
20    think, you know, we'll be here at least for a  
21    couple of hours.  If at any time you need a break,  
22    I'm happy to accommodate you.  The only stipulation  
23    I would put on that, if there's a pending question,  
24    I would ask that you answer my pending question and  
25    then we can go ahead and take a break.

1           A.     Understood.

2           Q.     Thank you.

3           MR. ANWAR:   Gio, can you go ahead and  
4 pull up the first exhibit.

5                   (DFT. EXHIBIT 1, subpoena to testify at  
6 a deposition in a civil action, was marked for  
7 identification.)

8 BY MR. ANWAR:

9           Q.     Okay. What is being shown on the  
10 screen now is --

11           MR. DEAN:   Can we let it pause for just  
12 a second because it doesn't automatically show up  
13 in the folder.

14           MS. BAUGHMAN:   Yeah, we don't --

15           MR. ANWAR:   You don't have it?

16           MR. DEAN:   We don't have it.

17           MR. ANWAR:   Oh, okay.

18           MR. DEAN:   You have to drop it to  
19 folder. Sometimes you have to refresh. Okay. I  
20 see the subpoena and the deposition.

21           MR. ANWAR:   There should be two  
22 subpoenas and a deposition.

23           MR. DEAN:   I see that now. Okay.  
24 We're good to go.

25           MR. ANWAR:   Okay. Great.

1 MR. DEAN: So you just have to hit  
2 refresh on your screen and you should be good.

3 MS. BAUGHMAN: Right here.

4 MR. DEAN: Yep.

5 BY MR. ANWAR:

6 Q. So the first exhibit that I've put up  
7 for you or that we've put up for you, Exhibit  
8 No. 1, is the subpoena scheduling your deposition  
9 here today. Have you seen this before?

10 MR. DEAN: Hold on just a second. So  
11 show me which -- they're not marked as exhibit  
12 numbers, so which one are you referring to? Give  
13 me the file name. I'm going to pull it up on the  
14 screen for him.

15 MR. ANWAR: Oh, I've got you. It is  
16 the one described deposition subpoena.

17 MR. DEAN: There's two deposition  
18 subpoenas.

19 MR. ANWAR: There's a document subpoena  
20 and then a deposition subpoena.

21 MR. DEAN: Okay. So which -- you're  
22 using the depo?

23 MR. ANWAR: Correct.

24 MR. DEAN: Okay.

25

1 BY MR. ANWAR:

2 Q. You see it?

3 A. Yes, yes, sir.

4 Q. Okay. Have you -- have you seen the  
5 deposition subpoena before?

6 A. Could you just scroll to the bottom so  
7 I can them? Yes, yes, sir, I have.

8 Q. Okay. And you understand it's a  
9 subpoena that we're here today to -- it's the  
10 subpoena here that -- that brought you in today for  
11 today's deposition?

12 A. Yes.

13 Q. Okay. And you understand that we're  
14 here in connection with the Camp Lejeune Justice  
15 Act Water Litigation pending in the Eastern  
16 District of North Carolina?

17 A. Yes, sir.

18 Q. Do you understand that the United  
19 States has subpoenaed you for your testimony as a  
20 fact witness in your capacity as a former ATSDR  
21 employee?

22 A. Yes.

23 Q. Okay. In other words, I understand  
24 that you've been retained as a consultant for the  
25 plaintiffs, correct?

1           A.     That is correct.

2           Q.     Okay.   So I'm here to ask you questions  
3 today related to your time as a government  
4 employee.   Do you understand that?

5           A.     I understand that.

6           Q.     Okay.

7           MR. ANWAR:   Gio, can you pull up  
8 Exhibit 2.

9                   (DFT. EXHIBIT 2, subpoena to produce  
10 documents, information or objects or to permit  
11 inspection of premises in a civil action, was  
12 marked for identification.)

13           MR. DEAN:   And if you want to, moving  
14 forward, either Giovanni can rename the file and  
15 add "EX1" in front of file name or -- which is what  
16 I did, or just read me the --

17           MR. ANWAR:   Exhibit 2 is the deposition  
18 subpoena.

19           MR. DEAN:   Okay.   So just give me the  
20 -- the name of the file and I'll click on it and  
21 show it to him.

22           MR. ANWAR:   Got it.   Yeah.

23           MS. BAUGHMAN:   You meant the document  
24 subpoena?

25           MR. ANWAR:   I'm sorry.   Yes, the

1 document subpoena. Kidding.

2 MR. DEAN: So I've got it up.

3 MR. ANWAR: Oh, you have it up. Okay.

4 BY MR. ANWAR:

5 Q. Do you see Exhibit 2, Mr. Maslia?

6 A. This looks like Exhibit 1 that you just  
7 showed me.

8 MR. DEAN: No, this is the deposition.  
9 One was a document subpoena.

10 THE WITNESS: Oh, okay.

11 MR. DEAN: This is a deposition  
12 subpoena.

13 THE WITNESS: Okay.

14 BY MR. ANWAR:

15 Q. And if you scroll down to the  
16 Attachment A, I'll represent to you, Mr. Maslia,  
17 that through the subpoena, the United States  
18 requested the production of a number of documents  
19 related to Camp Lejeune. And I will also note for  
20 the record that we received from your counsel a  
21 production -- an electronic production of roughly  
22 four thousand or so pages about a week and a half  
23 ago. And this morning we -- a hard copy -- a box,  
24 a banker's box full of hard copy documents was made  
25 available to us for inspection, so thank you for

1 producing that information.

2 Is that the information that you  
3 intended to produce in response to the government's  
4 document subpoena?

5 A. Yes.

6 Q. Okay. I just had a few questions about  
7 the documents in the bankers's box. It looked to  
8 me that the majority of the items in the banker's  
9 box were copies of the ATSDR water modeling reports  
10 related to Camp Lejeune. Is that your  
11 understanding as well?

12 A. Yes.

13 Q. Okay. There were a couple symposium  
14 papers in -- in the banker's box. Do you recall if  
15 those are publicly available or not?

16 A. They would be available, some of them,  
17 from the organization that made the presentation on  
18 their behalf --

19 Q. Okay.

20 A. -- that requested me to do that. I  
21 can't answer yes or no whether they're publicly  
22 available.

23 Q. Understood. And then there was -- on  
24 the back of the ATSDR water modeling reports there  
25 were some discs. The vast majority of the discs

1 appeared to be the original discs that would have  
2 been included with the reports; is that right?

3 A. That is correct.

4 Q. Okay. There was at least one disc in  
5 there that looked like it was a burned copy of a  
6 disc with some handwriting -- with handwriting on  
7 it. Do you know if that information would have  
8 been included with the original copy of the report?

9 A. I would have to see the report and the  
10 disc.

11 Q. Okay. I think maybe we can take a look  
12 at it at break, but we would formally request  
13 production of the symposium reports and the items  
14 on the handwritten discs.

15 MR. DEAN: At a break just point it  
16 out. I know what you're talking about, the  
17 presentations, but just point out to me the CD and  
18 maybe I can burn it while we're here today or  
19 something.

20 MR. ANWAR: Okay. Sounds good.

21 BY MR. ANWAR:

22 Q. I wanted to briefly ask you about your  
23 search process in terms of responding to the  
24 document subpoena. What did you do to gather  
25 documents to -- to produce in response to the



1 subpoena?

2 A. I had copies in my home basement office  
3 and so I pulled everything, all reports, with  
4 respect to Camp Lejeune, and then I was also  
5 instructed that you required the symposium  
6 presentation, so I actually printed those all off  
7 because I had them as, obviously, electronic  
8 versions.

9 Q. Understood. To the best of your  
10 knowledge, are there any documents that were  
11 requested by the subpoena that you haven't already  
12 produced or given to your counsel?

13 A. No.

14 Q. Okay. If you think of anything as  
15 we're talking today, would you let me know?

16 A. I will.

17 Q. Thank you.

18 How did you prepare for today's  
19 deposition?

20 A. I just reviewed my electronic versions  
21 of some of the Camp Lejeune reports that I was  
22 involved with as well as some of the more recent  
23 presentations that I made just to refresh my mind  
24 as to the concepts, the approaches, that we used.

25 Q. Understood. Are those -- those

1 presentations were produced in response to the  
2 subpoena, correct?

3 A. Yes.

4 Q. Thank you.

5 Did you review any other documents  
6 aside from the ones you just identified?

7 A. No.

8 Q. Did you meet with counsel?

9 A. Prior to the deposition?

10 Q. Correct.

11 A. No.

12 Q. In preparation for the deposition.

13 A. No.

14 Q. Did you meet with counsel this morning?

15 A. I saw him this morning.

16 Q. Okay. About how long did that meeting  
17 last?

18 A. About five minutes.

19 Q. And is that the only time that you've  
20 met with a lawyer to prepare for today's  
21 deposition?

22 A. I really did not meet with a lawyer to  
23 prepare for today's -- with an attorney to prepare  
24 for today's deposition.

25 Q. Okay. Okay. Did you bring any

1 documents with you asides from the documents in the  
2 banker's box?

3 A. No.

4 Q. I'm going to mark for the record  
5 Exhibit 3 as the signed Morris Maslia deposition.

6 (DFT. EXHIBIT 3, deposition of Morris  
7 Maslia dated June 30, 2010 Bates-stamped  
8 CLJA\_HEALTHEFFECTS-0000049487 through 49712, was  
9 marked for identification.)

10 BY MR. ANWAR:

11 Q. Mr. Maslia, can you see Exhibit 3?

12 A. Yes.

13 Q. Okay. I will represent to you this is  
14 a copy of your deposition transcript -- or a copy  
15 of the transcript from your deposition on  
16 June 30th, 2010 in the Laura Jones versus United  
17 States matter.

18 Do you recall sitting for that  
19 deposition?

20 A. Yes, I do.

21 Q. Okay. And if you scroll to the very  
22 end of the document, close to the end, it's  
23 starting on --

24 MR. DEAN: Just give me the page number  
25 and I can --

1 MR. ANWAR: Yeah, it's starting on page  
2 215 of the -- 226 of the PDF.

3 THE WITNESS: 187.

4 MR. DEAN: Huh?

5 THE WITNESS: It says 187 on there.

6 MR. DEAN: What's --

7 MR. ANWAR: Yeah, that's correct  
8 actually.

9 THE WITNESS: Oh, okay.

10 BY MR. ANWAR:

11 Q. 215 of the PDF, page 187, which you're  
12 looking at right now, did you have an opportunity  
13 to review your testimony from that deposition?

14 A. Yes.

15 Q. Okay. And you can feel free to look  
16 through the next few pages from 187 on. Is that  
17 your handwriting completing the errata or the  
18 correction sheet there for the deposition?

19 A. Yes, it is.

20 Q. And on the last page of the errata  
21 sheet, which is just 225 of the PDF, 197 of the  
22 document, at the bottom there, is that your  
23 signature at the bottom of the page?

24 A. Yes, that is my signature.

25 Q. Okay. And that prior deposition in

1 June 2010 in the Laura Jones matter, you gave that  
2 deposition under an oath to tell the truth as well,  
3 correct?

4 A. That is correct.

5 Q. Okay. And did you testify truthfully  
6 during that deposition?

7 A. Yes, I did.

8 Q. Okay. And do you stand by your prior  
9 deposition testimony today?

10 A. Yes, I do.

11 Q. And at that time in June 2010, when you  
12 sat for that deposition, were you employed by the  
13 ATSDR?

14 A. Yes, I was.

15 Q. And in June of 2010, ATSDR's water  
16 modeling efforts related to Tarawa Terrace would  
17 have been completed and the report published,  
18 correct?

19 A. That is correct.

20 Q. And as of June 2010, ATSDR's water  
21 modeling efforts related to Hadnot Point and  
22 Holcomb Boulevard would have been ongoing?

23 A. That is correct.

24 Q. Okay. Other than that prior -- and let  
25 me -- let me clarify. That was in the Laura Jones

1 matter, but that -- that case was also a Camp  
2 Lejeune case, correct?

3 A. It was never represented to me as to  
4 what case it was.

5 Q. Okay.

6 A. I was just requested to provide a  
7 deposition.

8 Q. Okay. And did you testify about your  
9 work at ATSDR related to Camp Lejeune?

10 A. Yes, I did.

11 Q. Okay. Other than that prior  
12 deposition, have you testified either in a  
13 deposition or a trial before?

14 A. No.

15 Q. So that was -- that's the only time  
16 that you've testified?

17 A. Yes.

18 Q. Okay. I am uploading --

19 MR. DEAN: Exhibit 4?

20 MR. ANWAR: Yes.

21 MR. DEAN: Okay.

22 MR. ANWAR: Actually upload both at the  
23 same time, but I'll identify Exhibit 4.

24 MR. DEAN: Maslia CV?

25 MR. ANWAR: Correct.

1 (DFT. EXHIBIT 4, resume for Morris L.  
2 Maslia Bates-stamped CLJA\_ATSDR\_BOVE\_0000073110 and  
3 73111, was marked for identification.)

4 BY MR. ANWAR:

5 Q. Mr. Maslia, you should have before you  
6 what is being marked as Exhibit 4. Is that a copy  
7 of your CV at least as of January 2018?

8 A. Could you scroll to the bottom of the  
9 page so I can see the date on it?

10 Q. Sure.

11 A. Yes, that is correct.

12 Q. And feel free to -- to look through the  
13 entire CV. There's two pages.

14 MR. DEAN: Yeah, so I'll just have to  
15 work --

16 THE WITNESS: That's fine.

17 MR. DEAN: Okay.

18 THE WITNESS: Okay. That's actually --  
19 I need to correct that. That's actually a resume.

20 BY MR. ANWAR:

21 Q. It's a resume. Okay.

22 A. I distinguish between a CV and a  
23 resume.

24 Q. How -- in your mind, how do you  
25 distinguish between a resume and a CV?

1           A.     A resume should be no longer than two  
2     pages, whereas, a CV can be 10, 20, 30 or multiple  
3     tens of pages and it provides more specificity on  
4     publications, on job activities, and stuff like  
5     that. It's more detailed.

6           Q.     Understood. As of January 2018, would  
7     this have been a true and accurate copy of your  
8     resume?

9           A.     Yes, it would have.

10          Q.     Do you also maintain a CV separately?

11          A.     Yes, I do.

12          Q.     Do you have an updated version of your  
13     CV available?

14          A.     Not with me on my person, but there is  
15     an updated CV.

16          Q.     Okay. If we were to -- and I'll make  
17     the record on the record. We will request a copy  
18     of that CV. Would you be willing to produce it to  
19     us?

20          A.     Yes.

21          Q.     Okay.

22                 MR. DEAN: No objection.

23     BY MR. ANWAR:

24                 Q.     And given that this is a resume and  
25     it's abbreviated from your CV, I assume there are



1 experiences and presentations and articles and  
2 things like that that are not reflected on this  
3 resume; is that right?

4 A. That is correct.

5 Q. Okay. Let's go ahead and mark -- show  
6 you Exhibit 5, which is a copy of your LinkedIn  
7 profile.

8 (DFT. EXHIBIT 5, LinkedIn profile page  
9 for Morris L. Maslia, was marked for  
10 identification.)

11 BY MR. ANWAR:

12 Q. Can you see Exhibit 5, Mr. Maslia?

13 A. I see it on the screen.

14 Q. Oh, it's also up there. Okay. Yeah  
15 scroll to the end.

16 I'll represent to you that I printed  
17 this a week or so ago on 9/20, it looks like, so  
18 less than a week ago. Is this a true and accurate  
19 copy of your current LinkedIn profile?

20 A. It appears to be.

21 Q. Okay. And are there experiences,  
22 articles, presentations, those types of things that  
23 are not necessarily reflected on your LinkedIn  
24 profile?

25 A. Yes.

1 Q. But those would be reflected in your  
2 CV?

3 A. That is correct.

4 Q. Okay. I would like to talk to you a  
5 little bit about your -- your educational  
6 background. As I understand it from your prior  
7 testimony and just the -- the resume and LinkedIn,  
8 you graduated with a bachelor's of civil  
9 engineering from Georgia Tech?

10 A. That's correct.

11 Q. And you graduated in 1976?

12 A. That is correct.

13 Q. Did you have a particular focus?

14 A. Not under the bachelor's degree other  
15 than general civil engineering.

16 Q. Did you do any modeling course work in  
17 your undergraduate study?

18 A. Yes.

19 Q. Could you tell me about that?

20 A. We did some basic fluid mechanics. We  
21 would call it modeling using numerical methods to  
22 represent mathematical equations. We also did some  
23 open channel flow.

24 Q. Understood. Anything else that comes  
25 to mind?

1 A. Not in the undergraduate.

2 Q. Did you complete any sort of, like,  
3 senior year thesis or capstone paper?

4 A. They did not have a senior year thesis  
5 for the undergraduate degree at Georgia Tech.

6 Q. Understood. Then I see you also  
7 graduated from Georgia Tech with a master of  
8 science in civil engineering; is that right?

9 A. That is correct, sir.

10 Q. And it looks like you graduated in  
11 1980?

12 A. Yes.

13 Q. Did you have a particular focus in your  
14 master's program?

15 A. Yes, it was water resources, fluid  
16 mechanics, numerical analysis.

17 Q. Did you perform any sort of modeling  
18 course work in your master's program?

19 A. Yes, I did.

20 Q. Can you tell me about that?

21 A. I worked with and actually developed  
22 what's referred to as a very -- variably saturated  
23 or saturated/unsaturated flow model.

24 Q. Can you describe for me the unsaturated  
25 versus saturated flow model that you developed?

1           A.    It's fully described in my thesis some  
2   40 -- 50 years ago, however, very briefly --

3           Q.    Sure.

4           A.    -- going down from land surface before  
5   you hit the water table, which is referred to the  
6   saturated zone below that, there's an unsaturated  
7   zone that contains air, vapor and some water  
8   particles, and that's a more complex analysis than  
9   just looking at the water table and going below the  
10  water table.

11          Q.    Understood.  Thank you.

12                Is your -- you said your thesis related  
13  to that model?

14          A.    Yes, yes, it related to a numerical  
15  model developed for that.

16          Q.    Was your thesis published?

17          A.    Yes, it was.

18          Q.    Do you know if that publication is  
19  publicly available?

20          A.    It should be publicly available from  
21  the Georgia Institute of Technology.

22          Q.    Understood.  Did you -- I understand  
23  that Mustafa Aral, was he one of your professors?

24          A.    Yes.

25          Q.    Did he publish that paper with you?

1           A.    Not the thesis.  That's under the  
2   graduate student's name.

3           Q.    Okay.  I saw a number of articles that  
4   you have published with Professor Aral or Dr. Aral.

5           A.    Right.

6           Q.    And so your thesis related to the model  
7   you just described, correct?

8           A.    That is correct.

9           Q.    Okay.  And as I understand it, you do  
10   not have a doctorate or Ph.D. degree?

11          A.    I do not.  I took course work, but I  
12   did not complete the doctoral dissertation.

13          Q.    Understood.  How much course work did  
14   you complete towards the Ph.D.?

15          A.    All of the required one, which I  
16   believe is at least 80.  Back then it was quarter  
17   hours.

18          Q.    And did you have a particular focus  
19   with respect to the -- the Ph.D. courses that you  
20   took?

21          A.    Again, it was a greater emphasis on  
22   water resources, environmental fate and transport,  
23   and numerical modeling.

24          Q.    And I think a moment ago you stated  
25   that you did not complete the Ph.D. thesis,

1 correct?

2 A. That is correct.

3 Q. Did you publish any other papers or  
4 articles coming out of your graduate level Ph.D.  
5 work?

6 A. I did as part of my job with the  
7 Federal Energy Regulatory Commission around 1980.

8 Q. Okay.

9 A. There were a couple of articles.

10 Q. Would all of those articles be  
11 reflected on your CV?

12 A. Yes.

13 Q. Okay. Are you familiar with the  
14 textbook Applied Groundwater Modeling: Simulation  
15 of Flow and Advective Transport by Mary Anderson?

16 A. Yes, I am.

17 Q. Okay. I believe the authors listed --  
18 listed on it are Mary Anderson, William Woessner,  
19 and Randall Hunt; does that sound right?

20 A. That sounds right.

21 Q. Okay. Would you agree that textbook is  
22 established as a reliable authority in the field of  
23 groundwater modeling?

24 MR. DEAN: Object to the form of the  
25 question.

1                   THE WITNESS: I could not say one way  
2 or the other.

3 BY MR. ANWAR:

4           Q.    Okay. Have you -- have you reviewed or  
5 used that textbook before?

6           A.    I've -- I've used it as a reference.

7           Q.    And what have you used it as a  
8 reference for, in what context?

9           A.    General modeling applications to -- if  
10 I'm searching for a particular technique or if  
11 someone else has used a technique and what their  
12 opinion of that technique is.

13          Q.    Can you recall any specific examples  
14 where -- where you've referenced that textbook?

15          A.    Not at this time, no.

16          Q.    Are you familiar with any of the  
17 authors of that textbook?

18          A.    I'm familiar with Dr. Mary Anderson.

19          Q.    Do you know her?

20          A.    I have met her professionally at a  
21 conference a number of years ago.

22          Q.    Have you -- have you worked with her at  
23 all?

24          A.    No, I have not.

25          Q.    Do you respect her in the field of

1 groundwater modeling?

2 A. Yes, I do.

3 Q. Are you familiar with the textbook  
4 Modeling Groundwater Flow and Contaminant Transport  
5 by Jacob Bear and Alexander Cheng?

6 A. Yes.

7 MR. DEAN: Hold on. So I'm going to  
8 allow you, if you're going to continue to do this,  
9 if you'll give me a continuing objection. My  
10 problem is you're not designating a time frame with  
11 respect to your question. So to -- to the extent,  
12 as you know, he's been retained by the plaintiffs  
13 as our consulting expert since July the 15th of  
14 2022. And to the extent you're asking him any  
15 questions that relate to that time period, from  
16 that time to the present, I make an objection. I'm  
17 not instructing him not to answer the question or  
18 anything like that, but I'm just saying, you know,  
19 this is not related to the facts of what went on  
20 with regard to his deposition.

21 MR. ANWAR: Sure. And I will give you  
22 that objection and I will -- a couple of things.  
23 One -- well, I'll rephrase the question, but if we  
24 could sort of limit the speaking objections, I  
25 would appreciate it as well.



1 MR. DEAN: Yeah.

2 BY MR. ANWAR:

3 Q. So understanding that you've been  
4 retained as a consultant for the plaintiffs in the  
5 litigation I believe as of June 2022, I'm not  
6 interested in what you've reviewed or what you've  
7 discussed with them from June 2022 forward, but  
8 prior to your retention as a consultant with the  
9 plaintiffs in the litigation, have you reviewed the  
10 textbook Modeling Groundwater Flow and Contaminant  
11 Flow by Jacob Bear and Alexander Cheng?

12 A. I've seen that -- that particular book.  
13 I've used other books by Jacob Bear.

14 Q. Okay. So you're familiar with it?

15 A. Yes.

16 Q. Would you consider that textbook as a  
17 reliable authority in the field of groundwater  
18 modeling?

19 MR. DEAN: Object to the form of the  
20 question and I am going to instruct him -- I'm  
21 going -- I'm not going to instruct him not to  
22 answer the question, but, again, you're not asking  
23 him questions about facts in this case. You're  
24 asking him about whether or not he has a current  
25 day opinion on whether some particular periodical

1 is reliable.

2 So I'm going to not instruct him to  
3 answer the question, but I thought we had an  
4 agreement that -- and I did it with Dr. Rennix. So  
5 you're asking him about something he -- a current  
6 opinion and that is not what we agreed to.

7 MR. ANWAR: And Kevin, your objection  
8 is noted and I'm going to ask you to limit your  
9 speaking objections. Mr. Maslia is here to  
10 testify, not you. And I will rephrase my question.

11 BY MR. ANWAR:

12 Q. Prior to your involvement in this  
13 litigation as a consultant, would you have  
14 considered that textbook as a reliable authority in  
15 the field of groundwater modeling?

16 A. Not that particular textbook.

17 Q. Okay. Why not?

18 A. There are other textbooks that not only  
19 I, but many, many other people rely on that are  
20 considered more classic textbooks in groundwater  
21 hydrology and modeling.

22 Q. And again, I'm asking about your  
23 personal knowledge --

24 A. Yes.

25 Q. -- prior to your involvement --

1           A.    Yes.

2           Q.    -- as a consultant in this litigation.  
3    So with that qualification, what are some of those  
4    other textbooks?

5           A.    There's Dynamics of Fluids by Jacob  
6    Bear.  And then there's Groundwater Hydraulics by  
7    Jacob Bear.  And then there's, I think, also  
8    Groundwater Hydrology or Hydraulics, I don't  
9    remember exactly, by Freeze and Cherry.

10          Q.    Okay.  And prior to your -- your  
11   retention as a consultant for the plaintiffs, would  
12   you have considered those reliable authorities in  
13   the field of groundwater modeling or modeling  
14   generally?

15               MR. DEAN:  Object to the form of the  
16   question.

17               THE WITNESS:  Reliable textbooks that I  
18   would use to refer if I had groundwater or  
19   geohydrology questions, they do contain sections on  
20   modeling, but I would not necessarily call them a  
21   modeling book.

22   BY MR. ANWAR:

23          Q.    Understood.  Do you know Jacob Bear?

24          A.    I don't know him personally.

25          Q.    But you're familiar with him through

1 his work?

2 A. Yes.

3 Q. Do you respect him in the field of  
4 groundwater modeling?

5 A. Yes.

6 Q. Do you know Alexander Cheng?

7 A. No, I do not.

8 Q. Shifting gears a little bit, I want to  
9 talk about your -- your professional background.  
10 As I understand it, you -- you started out your  
11 career as a research hydrologist at the United  
12 States Geological Survey in 1980; is that right?

13 A. That is not correct.

14 Q. Okay. Well, please correct me.

15 A. I started as a hydraulic engineer with  
16 the Federal Power Commission in Washington D.C. in  
17 1976.

18 Q. Okay.

19 A. Then I transferred to their office in  
20 at Atlanta and the agency name became Federal  
21 Energy Regulatory Commission. And then in 1980 I  
22 transferred as a hydrologist to the U.S. Geological  
23 Survey.

24 Q. Understood. Thank you for that  
25 clarification. For that position in 1976 to 1980,

1 remind me, what was the title of the position?

2 A. I was a hydraulic engineer, part of the  
3 civil engineering series in the government.

4 Q. What were your -- like, what was your  
5 role and what were your responsibilities as a  
6 hydraulic engineer?

7 A. The agency was a regulatory agency to  
8 inspect private hydroelectric dams that produced  
9 power, so we would inspect those dams and do  
10 analyses on the structural competency of those  
11 dams.

12 Q. Understood. Did you do any modeling in  
13 that role from '76 to '80?

14 A. I did one model with respect to using  
15 my master's dissertation on a dam in Georgia.

16 Q. Can you tell me about that model?

17 A. It was the saturated/unsaturated flow  
18 model, and one of the concerns of hydraulic  
19 engineers is when you build a dam, when you fill it  
20 or lower the reservoirs, that it becomes unstable  
21 based on pressures. So we did an analysis of  
22 Wallace Dam owned by the Georgia Power Company just  
23 for -- looking at the safety factors.

24 Q. How did you use that model to help you  
25 look at the question that you just described?

1           A.    Well, you use measured water levels,  
2   field conditions, and then change some condition  
3   based on whether they're filling the reservoir or  
4   emptying the reservoir, you put in soil properties  
5   into the model and then the model produces results.  
6   And in the case of this model it produces pressures  
7   and hydraulic heads and then you can determine if  
8   those are exceeding or not exceeding certain  
9   factors that would make the dam safe or unsafe.

10          Q.   And do you make that determination by  
11   comparing sort of data that you collect along the  
12   way to the predictions of the model?

13          A.   That is correct, but we did not collect  
14   the data. That was obtained from the Georgia Power  
15   Company.

16          Q.   Would that model be fairly described as  
17   a forecasting model?

18          A.   It was applied to the present  
19   conditions of the day, okay, so it did not go out  
20   in time, which is what I would consider it a  
21   forecasting model.

22          Q.   Understood. You said it was applied to  
23   the present conditions and time, so it would not  
24   have been a hindcasting or reconstruction either,  
25   correct?

1 A. That is correct.

2 Q. Did you do any other work related to  
3 models in that role from 1976 to '80?

4 A. No.

5 Q. Okay. And then in 1980, did you join  
6 the U.S. Geological Survey as a research  
7 hydrologist?

8 A. I joined in 1980 as a hydrologist. And  
9 then you had the opportunity based whether you  
10 wanted to take administrative track or a research  
11 track to be reclassified under the Office of  
12 Personnel Management's Research Grade Evaluation  
13 program. And so probably two or three years later  
14 I was promoted under the Research Grade Evaluation  
15 program based on publications and other criteria  
16 that that -- that RGE program requires.

17 Q. Understood. And were you promoted to  
18 research hydrologist?

19 A. Yes.

20 Q. How long did you work at the U.S.  
21 Geological Survey?

22 A. From 1980 to, I believe it was, 19 --  
23 November of 1989.

24 Q. And could you describe for me sort of  
25 at a high level what you did in that role during

1     that time?

2             A.     I did groundwater analyses using  
3     modeling techniques.

4             Q.     Okay. Can you provide me with specific  
5     examples of the ways in which you used modeling  
6     techniques in relation to groundwater?

7             A.     I was working on a congressionally  
8     funded project called the Regional Aquifer-Systems  
9     Analysis program or RASA that U.S. Geological  
10    Survey was doing all over the country. And being  
11    in the southeast we were looking at sections of the  
12    Florida aquifer system. And so we applied finite  
13    difference groundwater flow models to southwest  
14    Georgia and northwest Florida.

15            Q.     And what was the purpose of using the  
16    model in that context with respect to the work you  
17    were doing in Florida and southwest Georgia?

18            A.     To establish predevelopment conditions  
19    going back to the late 1800s of groundwater levels.  
20    And then also to establish, at that time, present  
21    day, which would have been about 1980 to '84 or  
22    '85, the current groundwater level conditions after  
23    the onset of pumping.

24            Q.     Did you actually use that model to, I  
25    guess, reconstruct conditions all the way back to



1 1800?

2 A. We used data that was -- that was  
3 available back then because of artesian wells  
4 that's included as part of the model.

5 Q. Okay. Can you explain for me how you  
6 use that data to look back to 1800?

7 A. Well, you need to start a model at a  
8 starting point where you know what the water levels  
9 are. So if there was no pumping going on and you  
10 had reports through the literature, through  
11 historical documents, of people seeing water levels  
12 going ten feet above land surface or 20 feet above  
13 land surface, you can use that as an estimate to  
14 estimate predevelopment conditions along with the  
15 aquifer properties.

16 Q. Was there data available going back in  
17 time to the 1800s?

18 A. There's sparse data, but there are some  
19 data points, yes.

20 Q. Understood. And what did you  
21 ultimately use that model for again?

22 A. To assess the water resources  
23 conditions for the present time, which I'm  
24 referring to, you know, the 1980s. There was a  
25 question in some of the areas in northwest Florida

1 as to how much drinking water would be available  
2 for future use 20, 30, 50 years out. There was a  
3 question in southwest Georgia as to how much more  
4 available agricultural land that they could  
5 irrigate by installing additional water supply  
6 wells.

7 Q. Would it be fair to characterize -- or  
8 would it be fair to characterize the use of that  
9 model as a sort of planning tool or urban sort of  
10 planning development tool?

11 A. It would be a planning tool.

12 Q. Okay. Did you perform any other work  
13 related to modeling in your role with the USGS?

14 A. Yes, I did.

15 Q. Can you tell me about that?

16 A. I conducted, along with a colleague,  
17 studies at Hyde Park, New York, which is part of  
18 the Love Canal/Hyde Park superfund area. We were  
19 requested to assist the USEPA in determining the  
20 time it would take a water particle that had been  
21 contaminated to travel from the Hooker chemical  
22 landfill to the Niagara gorge.

23 Q. Understood. Can you describe for me a  
24 little bit how you were able to do that using the  
25 modeling techniques or a model?

1           A.    Well, my -- my colleague had been a  
2   geohydrologist with USGS in the early 1960s when  
3   they were actually digging the power canals there,  
4   so he observed and witnessed water where water was  
5   coming out and the geology. And so we put that  
6   into the model. Obviously we were 20 years later.  
7   And then we had some current, at the time, water  
8   level measurements, and so we adjusted model  
9   parameters, hydraulic conductivities, soil  
10  saturation properties to come up with, you know,  
11  the current conditions.

12           Q.    Would it be fair to characterize that  
13  model, the Hyde Park model, as a planning tool as  
14  well?

15           A.    No, I would -- I would consider it a --  
16  an analysis tool, okay? It's -- because we were  
17  not requested to do any planning.

18           Q.    You were -- when you say you would  
19  describe it as an analysis tool, what were you  
20  analyzing?

21           A.    We were requested by USEPA to determine  
22  how long it would take a water particle assuming,  
23  the water particle was contaminated, to travel  
24  along a flow path from -- from a landfill to the  
25  Niagara gorge.

1           Q.    Would it be fair to characterize that  
2   model as a predictive model because you are  
3   planning --

4           A.    Yes, that would have been a predictive  
5   model.

6           Q.    Understood.  Any other work related to  
7   models in your role at USGS?

8           A.    Yes, I started to work on a model of  
9   Brunswick, Georgia.  They had some chloride  
10   contamination, natural chloride coming up from the  
11   Floridan aquifer going to industrial pumping right  
12   along the coast and the barrier islands in Georgia.

13          Q.    And what was the intended purpose of  
14   that model?

15          A.    The intended purpose was to help the  
16   state of Georgia plan as to how much more water  
17   could be withdrawn from the Florida aquifer.  How  
18   many more wells they could permit.  How much more  
19   industry could withdraw.

20          Q.    Would it be fair to characterize that  
21   model as a planning tool as well?

22          A.    Yes.

23          Q.    You're -- you're sort of looking into  
24   the future, right?

25          A.    Yes.

1           Q.   Any other work with modeling in --  
2   during your time at USGS?

3           A.   No.

4           Q.   As I understand it from your prior  
5   deposition, you -- you went from USGS -- you left  
6   that role in 1989 and you joined Geosyntec  
7   Consultants; is that right?

8           A.   That is correct.

9           Q.   And the position I saw, I think, either  
10   in the deposition or in your -- your resume was  
11   manager of the water resources group; is that  
12   right?

13          A.   That is correct.

14          Q.   And you were at Geosyntec Consultants  
15   from 1989 to 1992?

16          A.   Probably closer to -- from 1990 through  
17   1992.

18          Q.   Thank you.

19                   What did you do in that role as water  
20   resource -- as a manager of water resources group  
21   at Geosyntec?

22          A.   I established a library of model --  
23   model codes publicly available and things like  
24   that, so the engineers at Geosyntec, if they had a  
25   reason to need modeling, they would be there

1 available to them.

2 Q. When you say you established a library  
3 of model codes, does that mean you collected  
4 existing codes or did you actually develop new  
5 codes?

6 A. No, I collected existing codes.

7 Q. Do you recall just some examples of the  
8 types of codes you collected for that library?

9 A. I really do not for that particular --

10 Q. Fair enough.

11 A. -- job that I had.

12 Q. Did you do any work related to modeling  
13 when you were at Geosyntec?

14 A. Yes, I did.

15 Q. Can you tell me about that?

16 A. We looked at a landfill, a proposed  
17 landfill area in Cinnaminson, New Jersey.

18 Q. How did you use modeling in that  
19 context?

20 A. Again, the client wanted to use the  
21 area as a landfill, and as most states, the  
22 jurisdictions have a regulation that the water  
23 table cannot come within a certain number of feet  
24 below a landfill liner. So the question was we had  
25 to determine what would the water -- what would the

1 altitude of the water table be below the liner  
2 given a high rainfall season, a low rainfall  
3 season, things like that.

4 Q. Was that model intended to be used as a  
5 planning tool as well?

6 A. Yes.

7 Q. Because it was looking into the future?

8 A. It was looking into current conditions  
9 and then predicting how many wells would be needed  
10 to -- to take the water out to keep the water table  
11 below the landfill liner.

12 Q. Understood. Did you do any other work  
13 related to modeling in your role at Geosyntec?

14 A. No.

15 Q. And as I understand it, you -- you left  
16 Geosyntec in 1992 and that's when you joined ATSDR,  
17 correct?

18 A. That is correct.

19 Q. And for the purposes of the record,  
20 what does ATSDR stand for?

21 A. It stands for the Agency for Toxic  
22 Substances and Disease Registry.

23 Q. Okay. And how would you describe  
24 ATSDR, its role?

25 A. Under CERCLA they are mandated to be a

1 scientific agency to look at potential health  
2 effects resulting from people living near landfills  
3 or ingesting contaminated media. They also are  
4 responsible for producing toxicological profiles.

5 Q. The work that ATSDR does in looking at  
6 particular health effects or chemicals, I think you  
7 mentioned toxic profiles, how does that work get  
8 used?

9 A. I can't speak to the toxic profiles  
10 because that was not the division I was in nor my  
11 expertise.

12 Q. Understood. As it relates -- so that's  
13 a good point. Let's -- what was your role when you  
14 joined ATSDR?

15 A. I was brought in as a civil engineer in  
16 the Division of Health Assessment and  
17 Consultations.

18 Q. Okay. And what is a civil -- what are  
19 the responsibilities of a civil engineer in, you  
20 said, health assessment consultations --

21 A. Right, right.

22 Q. -- do?

23 A. Let me -- let me correct the record.

24 Q. Sure.

25 A. My apologies. I was brought in as an



1 environmental engineer.

2 Q. Okay. Thank you for that  
3 clarification.

4 A. For the official classification for  
5 the --

6 Q. Understood. So we won't hold you to  
7 that. Thank you for the clarification.

8 So what does an environmental engineer  
9 do?

10 A. You look and assess at environmental  
11 data and then determine if there's going to be a  
12 completed or not completed exposure pathway that  
13 would impact humans.

14 Q. How -- how long roughly, give or take,  
15 I understand that this was a number of years ago --  
16 did you hold the title of environmental engineer?

17 A. I'll say for maybe three years.

18 Q. So roughly '92 to '95?

19 A. Yes, sir.

20 Q. And what did you understand that the --  
21 well, let me back up. What -- what did you do in  
22 that role as an environmental engineer? Can you  
23 remind me?

24 A. I looked at different sites under  
25 CERCLA. ATSDR is responsible for assessing any

1 site that EPA classifies as a national priorities  
2 list site, NPL site. And ATSDR, by congressional  
3 mandate, has about two years to render an opinion  
4 to assess that and produce a public health  
5 assessment on that site, the scientific document,  
6 okay? And so that's what I worked on on a number  
7 of different sites.

8 Q. Was -- was your work relied upon for  
9 purposes of others that produce the public health  
10 assessment?

11 A. Yes.

12 Q. Do you know, from your time at ATSDR,  
13 how the public health assessments would be used?

14 A. Could you qualify that? Are you  
15 talking about from a scientific, regulatory,  
16 public? I'm not sure I understand the question.

17 Q. Sure. Were the -- so let me make sure  
18 I understand your testimony correctly. The work  
19 you did as an environmental engineer, that -- that  
20 helped the folks that worked on the public health  
21 studies do what they do; is that right?

22 A. No, the work that I did as an  
23 environmental engineer collecting data, analyzing  
24 contaminant data, would be used by ATSDR staff  
25 working on the public health assessments, not

1 health studies.

2 Q. I see. Okay. Did you do any modeling  
3 in that role as an environmental engineer?

4 A. Yes.

5 Q. Can you tell me about that?

6 A. One site in particular was Groton,  
7 Massachusetts and there was some -- and I would  
8 have to look back at the document. I don't recall  
9 whether it was PCE or TCE, but a volatile organic  
10 compound contamination.

11 Q. Okay.

12 A. And so we wanted to look because it was  
13 in a residential area.

14 Q. What was the purpose of that particular  
15 model?

16 A. To look at the time of travel of the  
17 contaminant and when it may have reached or made a  
18 completed exposure pathway so that humans would --  
19 would have been impacted by that.

20 Q. Were you looking at the time of travel  
21 into the future?

22 A. I would have to look at the -- go back  
23 to my, you know, my CV or whatever and look at  
24 that.

25 Q. Okay. Was -- to the best of your

1 recollection, was that what you would describe as a  
2 historical reconstruction modeling project?

3 A. No.

4 Q. In your -- in that role as an  
5 environmental engineer from '92 to '95, did you do  
6 any other work related to modeling?

7 A. I was asked for my technical advice and  
8 opinion on a number of different sites. I don't  
9 recall offhand specific site -- site names we did  
10 because we did a full model, but on the other ones  
11 it may have been a short analysis. It may have  
12 been a probabilistic analysis, things like that.

13 Q. Would -- would all of those --  
14 understanding that you don't recall the specific  
15 sites, would those models have been used to either  
16 analyze sort of present day conditions or sort of  
17 look into the future and make predictions?

18 A. They most likely would look at past  
19 conditions and current day at the time conditions.

20 Q. Okay. Do you recall any of the models  
21 that you worked on that looked at past conditions?

22 A. I know the Groton, Massachusetts one  
23 looked at past conditions.

24 Q. Do you recall how far back you looked  
25 for --

1           A.    No, I do not.

2           Q.    Is there -- was there information  
3 published about that site and your work on that  
4 site?

5           A.    I believe we did -- coauthored, I  
6 published a peer reviewed journal article on -- on  
7 the Groton site and I believe there's also a public  
8 health assessment by ATSDR on the Groton site. I  
9 do not specifically recall if they used the model  
10 result in the public health assessment or not.

11          Q.    Understood. Would you characterize the  
12 Groton site or the modeling work that you did on  
13 the Groton site as historical reconstruction?

14          A.    It's got a component of historical  
15 reconstruction.

16          Q.    What do you mean by that?

17          A.    Historical reconstruction, as I  
18 developed it for the agency along with a coauthor,  
19 is a process. So it involves many aspects.  
20 Modeling, data analysis, uncertainty analysis. So  
21 it spans the gamut, so it's not just one  
22 application or one model.

23          Q.    Would you have performed the types of  
24 things you -- you do for historical reconstruction  
25 such as uncertainty analysis with respect to that

1 -- that Groton site?

2 A. Not at that time.

3 Q. Still just focusing on '92 to '95 in  
4 that role as an environmental engineer, is there  
5 any other work you did related to modeling that you  
6 can recall?

7 A. I probably looked at a number of  
8 different sites and, again, may have done some  
9 probabilistic analysis looking at whether some  
10 contamination exceeded a certain threshold or not a  
11 certain health threshold.

12 Q. Understood. What position did you take  
13 on after 1995 or in 1995?

14 A. I was promoted again. The CDC and  
15 ATSDR being part of the CDC also had the Research  
16 Grade Evaluation program under Office of Personnel  
17 Management. So again, you could either go  
18 administrative or scientific. So I was promoted  
19 under the RGE program and then assigned as the  
20 project officer for the agency's exposure-dose  
21 reconstruction program.

22 Q. When were you assigned as a project  
23 officer to the exposure-dose reconstruction  
24 program?

25 A. I don't recall the exact date. The

1 program was -- document was published around 1993  
2 by the agency where I coauthored it and the  
3 director of the agency at the time signed off on  
4 it.

5 Q. Who was the director at the time?

6 A. Actually he -- at that time he was --  
7 they called them assistant administrators. It was  
8 Dr. Barry L. Johnson.

9 Q. And this would have been in 1993?

10 A. That's when the agency program -- yes,  
11 yes, he was the first assistant administrator for  
12 ATSDR.

13 Q. Okay. You became project officer for  
14 the exposure-to-dose reconstruction program in '95?

15 A. Yes.

16 Q. And did you hold that title all the way  
17 until you retired?

18 A. Yes.

19 Q. Did you hold any other titles from '95  
20 until you retired in 2017?

21 A. Not within ATSDR.

22 Q. What -- starting at a high level, how  
23 would you describe your -- your roles and  
24 responsibilities as project officer for the  
25 exposure-to-dose program at ATSDR?

1           A.    I would be the scientific and technical  
2    advisor for sites or for people who -- who needed  
3    some historical reconstruction. And so they would  
4    come to our group or our program, and then we would  
5    determine, you know, what approaches to use, what  
6    methodologies needed to be used to answer questions  
7    that they would pose to us.

8           Q.    Any other roles or responsibilities  
9    that you can think of related to that role?

10          A.    Well, under the RGE program they  
11    reevaluate you every so often, so you have to have  
12    a number of publications and things like that. So  
13    we would work on sites and publish documents. We  
14    would also -- I was responsible for overseeing the  
15    corporate agreement with the university partner  
16    that spanned five-year increments. So I would  
17    author that RFP and then the CDC grants office  
18    would put it out for bid. And we had a university  
19    partner as a corporate agreement partner.

20          Q.    When did you take on that role with the  
21    university partner?

22          A.    I'm thinking it's around 1995.

23          Q.    And did you partner with multiple  
24    different universities?

25          A.    No, we partnered with Georgia Tech.



1 Q. Okay. Was -- and Georgia Tech was the  
2 only university that you partnered with?

3 A. Yes, yes.

4 Q. Now, I understand that you led the  
5 water modeling efforts related to Camp Lejeune, and  
6 we'll talk about that. Putting that aside for a  
7 moment, can you tell me about any other work you  
8 did related to modeling in that role as project  
9 officer for the exposure-to-dose reconstruction  
10 program?

11 A. We did work on some selected sites that  
12 we were asked to look at. It could be groundwater  
13 modeling, fate and transport modeling, water  
14 distribution system modeling. So we -- you know.  
15 And again, if there was a special analysis code  
16 that we needed or that we did not have or it was  
17 not in the public domain, then, of course, we would  
18 ask our university partner to assist us.

19 Q. Okay. Understood. Do you recall any  
20 of the -- again, putting Camp Lejeune model aside,  
21 any -- do you recall any of the types of models you  
22 used?

23 A. We used water distribution system  
24 modeling at Southington, Connecticut and Toms  
25 River, Dover Township, New Jersey.

1 Q. What -- what was the project in  
2 Connecticut?

3 A. They had a water distribution system,  
4 and the Connecticut -- I'm going to call it public  
5 health agency. I don't recall the exact name. It  
6 was VOC contamination and they were concerned  
7 about, I believe, kidney cancer and miscarriages,  
8 and so they wanted to see how the contamination  
9 traveled through the pipelines of their water  
10 distribution system.

11 Q. Was that looking at travel into the  
12 future?

13 A. Not necessarily. Water distribution  
14 systems operate on time scales of hours. Okay. So  
15 it could be the present day condition or it can be  
16 a past condition based on the past condition of the  
17 water distribution system.

18 Q. Okay. Would you consider that -- that  
19 work you did in Connecticut as historical  
20 reconstruction?

21 A. No, I would consider it more present  
22 day. Present day for that time.

23 Q. Okay.

24 A. Not present day now.

25 Q. And I understand Dover and Toms River.

1 That was a historical reconstruction, correct?

2 A. Yes, it was.

3 Q. Was that the first historical  
4 reconstruction project you had performed at ATSDR?

5 A. That was probably the first and most  
6 publicly-acknowledged project.

7 Q. Okay. Is it -- is it the first  
8 historical reconstruction you had performed at  
9 ATSDR or the first one you had performed period at  
10 any place of employment?

11 A. It would be the first complete  
12 historical reconstruction. Again, historical  
13 reconstruction is a process, so we may have taken a  
14 certain aspect of historical reconstruction model  
15 or data analysis and done some for some other  
16 sites, but Toms River, New Jersey was the first  
17 complete application of a historical reconstruction  
18 process.

19 Q. Who did you work with on the Toms River  
20 project?

21 A. We worked -- we had a corporative  
22 agreement. When I say "we", I mean ATSDR, just to  
23 clarify. ATSDR had a corporative agreement with  
24 the New Jersey Department of Health and Senior  
25 Services, and they requested ATSDR's assistance

1 because of the increasing number of childhood  
2 cancer cases that they had observed.

3 Q. Okay. Who from ATSDR worked with you  
4 on that project?

5 A. Myself and probably Mr. Jason Sautner.

6 Q. Okay. Did you work with any university  
7 partners on that project?

8 A. Yes.

9 Q. Who -- who was that?

10 A. The -- it was referred to as the  
11 multiple environmental simulations -- multimedia  
12 environmental simulations laboratory at Georgia  
13 Tech.

14 Q. Is that the laboratory run by Mustafa  
15 Aral?

16 A. Yes.

17 Q. Okay. And as I understand it, he  
18 was -- he was a professor that you had while you  
19 studied at --

20 A. That is correct.

21 Q. -- Georgia Tech, correct?

22 A. That is correct.

23 Q. Okay. As it relates to Toms River, can  
24 you walk me through a little bit, sort of your  
25 thinking as a scientist or your -- kind of the

1 scientific process of determining whether you can  
2 do a historical reconstruction, particularly since  
3 it sounds like you had never done one before?

4 MR. DEAN: Object to the form of the  
5 question.

6 BY MR. ANWAR:

7 Q. You can answer.

8 A. Okay. It's not that -- again,  
9 historical reconstruction is a process, okay? So  
10 we had applied previously parts of that, but for  
11 Toms River, New Jersey we were asked to look at the  
12 development of their water distribution system from  
13 its infancy, 1960s, all the way to the current day,  
14 which was, I believe at the time, 1998. And on a  
15 monthly and annual basis, the people, the health  
16 scientists at New Jersey Department of Health and  
17 Senior Services wanted to know which well field was  
18 contributing which volume of water to the total  
19 water supply so they could do an epidemiologic  
20 study.

21 Q. How big was the Toms River site, do you  
22 recall?

23 A. Big in area or big in population?

24 Q. Why don't we start with physical area.

25 A. Oh, it's maybe 40 square miles.

1           Q.    Okay.  How does -- just out of  
2   curiosity, just for my own kind of conceptualizing,  
3   it how does that relate to Camp Lejeune?

4           A.    Camp Lejeune in its entirety is  
5   probably around 150 or more square miles.

6           Q.    Okay.  Do you recall how many water  
7   distribution systems you were looking at at the  
8   Toms River site?

9           A.    There was one because it was a  
10  privately owned water utility, United Water, but  
11  there were multiple well fields.

12          Q.    Do you remember the number of well  
13  fields?

14          A.    I believe it was eight, but I would --  
15  I just want to couch that and say I would have to  
16  go back and look at our publications.

17          Q.    And how many chemicals were you looking  
18  at with respect to Toms River?

19          A.    That is where discussions between the  
20  New Jersey Department of Health and Senior  
21  Services, epidemiologists in our group decided we  
22  could use a novel approach and we did not have to  
23  look at chemical-specific compounds.

24          Q.    Can you -- can you explain a bit more  
25  for me what you mean by that?  You said a novel

1 approach where you don't have to look at  
2 chemical-specific compounds.

3 A. Uh-huh.

4 Q. What did you mean?

5 A. What they were interested in from the  
6 epidemiology standpoint is, again, the volume of  
7 water that, you know, Jane and John Smith would be  
8 receiving from well field A, well field B, C, D, E  
9 and F, okay? And the epidemiologist decided that  
10 that was of primary importance. If they could  
11 determine the volume of water, then based on  
12 additional epidemiologic study information, like  
13 consumption activities at the home, they could  
14 establish the epidemiologic statistics that they  
15 needed. So they did not need -- so it was decided  
16 that they did not need a specific compound to trace  
17 through the water distribution system. They  
18 assumed whatever compound was there would be  
19 conservative, would not degrade, so you really did  
20 not need a specific compound.

21 Q. I see. So it was just sort of  
22 hypothetical compound -- or not hypothetical, but  
23 undefined compound?

24 A. It was -- no, it was a compound defined  
25 as a conservative compound.

1 Q. Okay.

2 A. And then we assumed a certain  
3 concentration, and then we could tell what  
4 percentage of that concentration originating from  
5 well field A, B, C, D or E where it traveled to in  
6 -- in their distribution system.

7 Q. Did you have -- I think a moment ago  
8 you said for Dover -- the Dover reconstruction  
9 project you looked at the time period from 1960 to  
10 1998?

11 A. 1962.

12 Q. 1962. Excuse me. To 1998.

13 Did you have historical data during  
14 that period related to the water?

15 A. We had some, yes.

16 Q. How much -- what data did you have?  
17 How much data did you have?

18 A. We had information from the water  
19 utility as to when they installed certain pipelines  
20 in certain locations. Certain water appurtenances;  
21 pumps, valves, stuff like that. So as the system  
22 changed, we had information on that.

23 Q. Since you were dealing with a compound  
24 that you defined as conservative, but not  
25 necessarily any specific chemical, I assume you



1 didn't have, like, historical sampling data related  
2 to any particular chemical?

3 A. No, that's not correct.

4 Q. Okay. Could you -- could you explain  
5 it for me?

6 A. Yes, it turns out that the groundwater  
7 in New Jersey that they used is -- in the water  
8 region system has naturally occurring high barium.  
9 And so we had some -- and so New Jersey took some  
10 barium readings in the 1990s, and so we were able  
11 to match the model. When I say "match", we were  
12 able to compare modeling for a specific date and  
13 time with barium readings, and that's all described  
14 in our -- in a journal article that I published in  
15 2000.

16 Q. Okay. Prior -- did you have pumpage  
17 data related to the Dover site?

18 A. Are you talking about groundwater well  
19 pumpage or water distribution system pumps?

20 Q. Either one.

21 A. We had water distribution system pump  
22 curves which is required by the model that we used  
23 and that, again, came from the water utility. We  
24 knew how much water they were pumping out of their  
25 round water wells.

1 Q. At the time that you worked on the  
2 Dover reconstruction effort, were you aware of any  
3 other reconstruction efforts taken to look at, I  
4 guess, water chemical concentrations over, you  
5 know, the period of time that you were looking,  
6 30-some years?

7 A. Like other parties or by ATSDR?

8 Q. By anyone.

9 A. Well, yes, there was the ongoing -- I  
10 think it's the Department of Energy dose  
11 reconstruction programs at, like, Hanford, Savannah  
12 River plant.

13 Q. Okay.

14 A. And some of those big facilities  
15 assessing, for example, the fallout at Hanford and  
16 the Downwinders and things like that.

17 Q. I had a thought and I lost my train of  
18 thought for a second. Give me one second.

19 And if you want, we've been going for  
20 about an hour. We're welcome to take -- you're  
21 welcome to take a break.

22 A. I would like a fresh cup of tea.

23 MR. ANWAR: You want to grab -- let's  
24 take five.

25 MR. DEAN: Take five, if you don't

1 mind.

2 MR. ANWAR: Sure.

3 THE VIDEOGRAPHER: Going off the  
4 record. The time is 10:38 a.m.

5 (A recess transpired.)

6 THE VIDEOGRAPHER: Going back on the  
7 record. The time is 10:50 a.m.

8 BY MR. ANWAR:

9 Q. We are back on the record from a short  
10 break. Mr. Maslia, are you okay to continue?

11 A. Yes, I am.

12 Q. Great. Did you speak with your lawyers  
13 during the break at all?

14 A. No, I did not.

15 Q. Okay. Before the break we were  
16 discussing your work as it relates to the Dover,  
17 New Jersey -- or the Dover Toms River site,  
18 correct?

19 A. That's correct.

20 Q. And I think earlier in your testimony  
21 you mentioned that the modeling work you did  
22 related to that site was to help perform health  
23 studies; is that right?

24 A. It was for New Jersey Department of  
25 Health and Senior Services to conduct their

1 epidemiologic study of the area.

2 Q. Do you know if the New Jersey  
3 Department of Health did, in fact, perform the  
4 health study?

5 A. Yes, they did.

6 Q. Do you know what that health study was  
7 used for?

8 A. To determine -- they were conducting a  
9 case control study, so to determine if people  
10 received water from a certain well field had a  
11 higher risk of incurring certain health diseases  
12 than people who did not receive water from that  
13 particular well field.

14 Q. Okay. Do you recall any of the  
15 conclusions in that health study?

16 A. It's really an epidemiologic question.

17 Q. Sure.

18 A. So I can answer the contribution of the  
19 model, but not the epidemiological results.

20 Q. Understood. Do you recall whether the  
21 New Jersey Department of Health took any sort of  
22 action as a result of that health study?

23 A. I'm not aware if they're a regulatory  
24 agency or what -- what their involvement from that  
25 standpoint is.

1           Q.    Okay.  So, you know, you did the  
2 reconstruction?

3           A.    Right.

4           Q.    They did the study?

5           A.    Yes.

6           Q.    And that's it?

7           A.    That's correct.

8           Q.    Okay.  I wanted to go back to -- you  
9 mentioned some work you did related to Savannah  
10 River; is that correct?

11          A.    No, no.

12          Q.    What was --

13          A.    We did some work -- Savannah River I  
14 mentioned in terms of just doing dose  
15 reconstruction --

16          Q.    Oh, correct.

17          A.    -- because they were part of the  
18 Department of Energy plants producing...

19          Q.    Thank you for that clarification.  I  
20 was misremembering.  So you mentioned Savannah  
21 River in the context of a question I asked about  
22 whether anyone else had done sort of a  
23 reconstruction project, correct?

24          A.    Yes.

25          Q.    And that Savannah River project, my

1 understanding about it is that it involved an air  
2 model related to nuclear fallout; is that right?

3 A. I really don't know the specifics. I  
4 just remember seeing in the scientific literature  
5 reports from Savannah River plant, Hanford, and  
6 things of that nature where they would have had DOE  
7 facilities that produced, you know, weapons-grade  
8 materials, so...

9 Q. Aside from Savannah River, at the time  
10 that you did the Toms River Dover reconstruction,  
11 are you aware of any others -- reconstructions,  
12 sort of historical reconstruction modeling projects  
13 that had been performed anywhere?

14 A. Not at the time, however, there's a  
15 literature review in 2010 by Jennifer Somheil and  
16 others and they do a complete review of  
17 environmental reconstruction analyses.

18 Q. Off the top of your head, there's --  
19 there's your work as it relates to Dover and Toms  
20 River and then we will talk about your work related  
21 to Camp Lejeune. Are you aware -- and then you  
22 mentioned the Savannah River project as well. Are  
23 there any other historical reconstruction modeling  
24 projects that you can think of?

25 A. There's one, for example, in Tucson,

1 Arizona from the Hughes Aircraft TCE plume. That  
2 was sealed under the courts.

3 Q. Okay.

4 A. So it was private consultants. So  
5 while ATSDR is aware of that, ATSDR, it's not  
6 publicly available.

7 Q. Okay. Fair to say you haven't seen  
8 that work?

9 A. I've seen parts of that work.

10 Q. Okay. Do you know what specifically  
11 that work entailed?

12 A. No, no, no.

13 Q. Okay. At the time that you were  
14 working at the Toms -- on the Toms River project,  
15 did you consult any modeling textbooks?

16 A. Consulted modeling manuals.

17 Q. What modeling manuals did you consult?

18 A. EPANET.

19 Q. Okay. Anything else that you recall?

20 A. No.

21 Q. And then you mentioned that -- as I  
22 think you mentioned, and you should correct me if  
23 I'm misremembering, that as project officer for the  
24 ATSDR's exposure-to-dose reconstruction program,  
25 that you started that; is that right?

1           A.     That is correct.

2           Q.     Okay. I'm trying to understand if in  
3 starting that program you started from scratch or  
4 did you look to some sort of existing scientific  
5 methodology for that program?

6           A.     The program evolved and was proposed by  
7 me and a coauthor because at the time, ATSDR came  
8 under scrutiny by the Government Accountability  
9 Office. They were handed 1200 NPL sites. In the  
10 congressional mandate they were supposed to review  
11 all of them within two years. So the agency  
12 essentially were taking remedial investigation  
13 reports and rubber stamping them and saying, yeah,  
14 let's go to the next one.

15                     And so the assistant administrator,  
16 Dr. Barry Johnson, the conversations initially just  
17 started out as, you know, you know, nothing  
18 technical or anything. We agreed that ATSDR needed  
19 some quantitative computational ability to  
20 independently check results in either the remedial  
21 -- remedial investigation reports or proposed  
22 remediations by EPA. And so that's how -- that was  
23 the origin of the exposure-dose reconstruction  
24 program, was to provide a technical and -- and  
25 scientific section within ATSDR that people could



1 tag into and...

2 Q. And in providing the technical support  
3 in that role, did you -- were there existing  
4 methodologies that you looked to and relied upon or  
5 did you -- did you start from scratch?

6 A. Well, there are existing published  
7 models that would be part of their existing  
8 probabilistic analysis, but we also had our  
9 corporative agreement partner and they developed  
10 their own models and approaches, so we would  
11 incorporate everything as determined by what  
12 particular site or what particular question we were  
13 asked to answer.

14 Q. Understood. At the time that you did  
15 the Dover historical reconstruction, did you -- did  
16 you start from scratch on that or was there  
17 existing sort of scientific methodology on how to  
18 do a historical reconstruction?

19 A. We started from scratch, from the  
20 corporative agreement partner, New Jersey  
21 department asked us to look at the water  
22 distribution system. And for a few pipes you can  
23 do that by hand. It's taught in engineering  
24 school.

25 Q. Okay.

1           A.    And once they showed us the expanse of  
2   the distribution system, we told them you needed  
3   some automated method, and that's when we were --  
4   we looked through the literature and we found out  
5   about the EPANET program out of EPA.

6           Q.    And I think earlier you described only  
7   some of the work you did related to Toms River as  
8   novel; is that right?

9           A.    Yes.

10          Q.    Can you -- and I apologize if you  
11   already explained this, but can you remind me how  
12   it was novel?

13          A.    It was the first time that multiple or  
14   several dozen pressure launders --

15               MR. ANWAR:   I apologize.   I don't know  
16   what that is.   Sorry.

17               MR. DEAN:   It almost caused me a heart  
18   attack.

19   BY MR. ANWAR:

20          Q.    Okay.   Could you -- could you remind me  
21   why -- the aspects of Toms River, New Jersey that  
22   were novel?

23          A.    It was -- first of all, to my  
24   knowledge, a water distribution system had not been  
25   reconstructed from its beginning stages, for

1 example, 1962, year by year, all the way up through  
2 1998. And it was the first time that a large  
3 number of automated pressure recorders had been  
4 used to obtain data and monitor the system. And  
5 that's all, again, in that published article that  
6 we published in the Journal of Water Resources  
7 Planning and Management in 2000 under the auspices  
8 of the American Society of Civil Engineers. And  
9 they considered it novel enough that they awarded  
10 us the best practice-oriented paper for 2000.

11 Q. Okay. And I think I saw online that  
12 there was an ATSDR report published related to Toms  
13 River as well?

14 A. Yes, there was a number of ATSDR  
15 reports published. One for the current conditions  
16 at the time, which I believe were 1998, and then  
17 the historical reconstruction going back from 1962  
18 forward.

19 Q. Okay. I think maybe the report I saw  
20 was the reconstruction.

21 A. Okay.

22 Q. So putting Toms River aside, Dover and  
23 Toms River, putting Camp Lejeune aside, during your  
24 time as project officer for the exposure-to-dose  
25 reconstruction program at ATSDR, are there any

1 other historical reconstruction efforts you worked  
2 on while you were at ATSDR?

3 A. We did an uncertainty probabilistic  
4 analysis in Morrilton -- Marston, Missouri. Again,  
5 it was quick. Somebody needed an analysis to see  
6 if -- I think it was PCBs, if they were exceeding a  
7 certain health criteria. So again, that was a  
8 statistical analysis, but, again, it's, you know,  
9 part and parcel of the work that we did under the  
10 auspices of the dose reconstruction program at  
11 ATSDR.

12 Q. Okay. And the work you just mentioned,  
13 were you -- you mentioned you were looking at PCBs  
14 and whether they exceeded --

15 A. The health assessors were.

16 Q. The health assessors were.

17 A. Right.

18 Q. What time period were you focused on?

19 A. I don't recall that. I would have to  
20 go back to a presentation or --

21 Q. Sure.

22 A. -- some documents to look at that.

23 Q. Do you recall whether you were looking  
24 back in time or you -- it was forward looking or  
25 present day?

1 A. I really don't -- don't recall.

2 Q. Okay. Fair enough. Any -- anything  
3 else you can remember related to historical  
4 reconstruction with the -- putting everything that  
5 we've already discussed aside?

6 A. Not...

7 Q. Did you have any other roles or  
8 responsibilities aside from modeling work and the  
9 technical support as project officer for the  
10 exposure-to-dose reconstruction program at ATSDR?

11 A. One, I would oversee and maintain the  
12 corporative agreement with our university partner.

13 Q. Sure.

14 A. If they needed something or they needed  
15 equipment or whatever. And it was a five-year  
16 corporative agreement, so every year they would  
17 have to submit a report and I would have to, you  
18 know, sign off and say that they -- what they said  
19 in the report was true and they accomplished what  
20 they wanted to do. I also was responsible, and it  
21 was not an official duty, but I mentored people  
22 coming from graduate school.

23 Q. Who are some of the people that you  
24 mentored?

25 A. Mr. Jason Sautner. Mr. Rene

1     Suarez-Soto. Dr. Amy Funk, who is now with the  
2     Centers for Disease Control.

3             Q.     Okay. If I remember correctly,  
4     Mr. Sautner was also a Georgia Tech grad; is that  
5     right?

6             A.     That's -- that's where I became aware  
7     of him.

8             Q.     Okay.

9             A.     Through our corporative agreement  
10    partner. I mentioned the undergraduate student  
11    that could assist us.

12            Q.     And did he -- if I remember correctly,  
13    do you know, did he study under Mustafa Aral as  
14    well?

15            A.     I don't specifically recall.

16            Q.     Okay. Fair enough.

17            A.     Although because he was -- Dr. Aral did  
18    recommend him to us, but I don't know if he studied  
19    underneath him.

20            Q.     Okay. Would you consider Dr. Aral,  
21    Mustafa Aral, a mentor to you?

22            A.     Yes, absolutely.

23            Q.     What -- what is Mustafa Aral's sort of  
24    focus at Georgia Tech?

25            A.     It varied from developing what he

1 referred to as innovative techniques for modeling  
2 analyses, health risk analyses.

3 Q. Okay. You retired from ATSDR in  
4 December of 2017; is that right?

5 A. December 31st, 2017.

6 Q. And upon retirement or after you  
7 retired, you started your own consulting firm or  
8 you started consulting?

9 A. I -- I established my name as an  
10 independent consultant.

11 Q. Okay.

12 A. But did not do any consulting for  
13 several years.

14 Q. And the name I saw on your resume is  
15 M.L. Maslia, Consulting Engineer?

16 A. That is correct.

17 Q. What types of consulting work or  
18 projects do you handle? And let me caveat, I'm not  
19 asking -- again, aware that you're observing as a  
20 consultant for the plaintiffs --

21 A. Right, right.

22 Q. -- in this litigation, so not asking  
23 about that.

24 A. Yeah.

25 Q. But aside from that.

1           A.     Aside from that I've done some work for  
2     a private consulting firm in Woodstock, Georgia  
3     overseeing some of their staff that were conducting  
4     groundwater modeling at a proprietary site that  
5     they were asked to be consultants on.

6           Q.     And where was this at?

7           A.     Where was the site?

8           Q.     Yeah.

9           A.     I'm not allowed to say that.

10          Q.     Okay. I thought you said -- was it  
11     Woodstock?

12          A.     Well, the consulting company is located  
13     in Woodstock --

14          Q.     Okay.

15          A.     -- Georgia, which is about 15 miles  
16     from where I live.

17          Q.     Can you share how you supported the  
18     groundwater modeling on that project?

19          A.     Yes, I reviewed the assumptions that  
20     their geohydrologist put into the model. They also  
21     collected field samples. I can say it was around a  
22     landfill, okay? I would provide them professional  
23     engineering advice as to how many samples they  
24     should be collecting, how spaced out, and then  
25     review the model simulations that their staff



1 would -- would make to see if the assumptions,  
2 boundary conditions, et cetera, were consistent and  
3 with best engineering practices.

4 Q. Understood. Was -- was that a  
5 historical reconstruction model?

6 A. No, no.

7 Q. What type of model was it?

8 A. It was a current day.

9 Q. Current day.

10 A. Current day.

11 Q. Any other projects or work that you can  
12 think of as a consultant?

13 A. I occasionally review, actually for the  
14 same company, a semiannual report that they have to  
15 submit to the Georgia Power Company, and I review  
16 it as a professional engineer. Okay.

17 Q. And you are a professional engineer,  
18 correct?

19 A. Yes, I'm registered in Georgia as a  
20 professional engineer with an active license.

21 Q. Anything else you can think of that  
22 you've worked on since becoming a consultant?

23 A. Not as a consultant.

24 Q. Besides Camp Lejeune.

25 A. Yeah, not as a consultant.

1           Q.    Okay.  Again, not asking about Camp  
2   Lejeune specifically, but generally speaking, what  
3   do you charge as your -- your consulting rate?

4           A.    Around \$300 an hour.

5           Q.    Okay.  I would like to switch gear and  
6   -- switch gears a little bit and talk more  
7   specifically about Camp Lejeune.  We're going to  
8   pull up what we're marking Exhibit 6.  It should be  
9   titled ATSDR website -- or no, it should be -- it's  
10  actually a different one.

11           MR. DEAN:  I don't know why mine is not  
12  pulling up.

13           MS. BAUGHMAN:  Did you refresh it?

14           MR. DEAN:  Yeah.

15           MR. ANWAR:  The one I want is actually  
16  -- you can leave that one in there, though.  It's  
17  the CDC 24/7.

18           MR. DEAN:  That is weird.  Can I see  
19  that, my iPad?

20           MS. BAUGHMAN:  This one?

21           MR. ANWAR:  Okay.  It's in there.  It's  
22  -- Exhibit 6 is CDC 24/7 Camp Lejeune summary.  And  
23  just let me know when you see it.

24           MR. DEAN:  I'm just having a little...

25           MR. ANWAR:  Let's go off the record for

1 a second.

2 THE VIDEOGRAPHER: Going off the  
3 record. The time is 11:12 a.m.

4 (Off the record.)

5 (DFT. EXHIBIT 7, CDC 24/7, Camp  
6 Lejeune, Summary 2014 PowerPoint Bates-stamped  
7 CLJA\_WATERMODELING\_01-0000003764 through 3792, was  
8 marked for identification.)

9 THE VIDEOGRAPHER: Going back -- going  
10 on the record. The time is 11:15 a.m.

11 BY MR. ANWAR:

12 Q. We are back on the record from a short  
13 break to deal with a technical issue. I have  
14 pulled up what I have, before the break, described  
15 as Exhibit 6, but it's actually Exhibit 7. It  
16 should be showing on your screen now and it's --  
17 it's pulled up on the larger screen up there as  
18 well.

19 I'll represent to you that it's a  
20 PowerPoint presentation entitled CDC 24/7, Camp  
21 Lejeune, Summary 2014. Do you recall -- and feel  
22 free to skim through it. I don't know if you have  
23 that ability.

24 A. Yeah, yeah, yeah. No, I can't.

25 Q. Gio is skimming through the slides.

1           A.    Oh, I'm sorry.   Okay.   Yeah.   Go ahead  
2   and just -- okay.   Okay.

3           Q.    Okay.   My question was, do you recall  
4   ever seeing this presentation before?

5           A.    No, I've never seen that presentation.

6           Q.    Okay.   Do you recall if you were  
7   involved -- or do you know if you were involved in  
8   preparing the presentation or populating any of the  
9   information contained in it?

10          A.    Only if it contained modeling results  
11   or analyses that we had published in the ATSDR  
12   historical reconstruction -- under the historical  
13   reconstruction for Camp Lejeune and they would want  
14   a particular figure or not with this, so -- but I  
15   don't recall this actual -- being involved with  
16   this particular presentation.

17          Q.    Okay.   I'll just represent to you that  
18   the presentation, we pulled it from ATSDR's water  
19   modeling project files.

20          A.    Oh, okay.

21          Q.    Which I think are referred to as the  
22   EDRP files.

23          A.    Yes, yes.

24          Q.    Are you familiar with the EDRP files?

25          A.    Yes.

1 Q. What are those?

2 A. Under ATSDR they had a LAN, large area  
3 network, but did their work and each person at  
4 ATSDR was assigned, you know, user ID and then they  
5 could keep files underneath there. Their work  
6 files, project files, and so on. So EDRP obviously  
7 stood for exposure-dose reconstruction program and  
8 so we would have files in there.

9 Q. And that's the program you were the  
10 project officer for?

11 A. Yes.

12 Q. Would you have had access to the EDPR  
13 files or the folders?

14 A. Yes, they would have under my user ID.

15 Q. And you would have -- that would have  
16 been true until you left in -- on December 31 --

17 A. That is correct, that is correct.

18 Q. And just for the record, so it's clear,  
19 that would have been true until you left in  
20 December of 2017, correct?

21 A. That is correct.

22 Q. Thank you.

23 And so this presentation is dated 2014.  
24 I wanted to start by asking you about a few slides.

25 MR. ANWAR: Can we go to slide two.

1 BY MR. ANWAR:

2 Q. So slide two says "Camp Lejeune is a  
3 Marine Corps Base in North Carolina. Camp Lejeune  
4 opened in 1942." Is that your understanding?

5 A. Construction started in 1941.

6 Q. Okay.

7 A. And then they started getting Marines  
8 in and being operational in 1942.

9 Q. Okay. Thank you.

10 Go to slide four, please. Well,  
11 actually slide three. So slide three says "what  
12 happened?" And then slide four contains the slide  
13 that is titled "water contamination." The slide  
14 discusses water distribution --

15 A. May I go on the record for a second?

16 Q. Sure.

17 A. Just to clarify, this is not anything I  
18 put together. I can tell by the language, okay?

19 Q. Okay. Fair enough.

20 A. Okay. Just so this is the first time  
21 I'm -- I'm seeing it.

22 Q. Understood.

23 A. Okay.

24 Q. So this particular slide discusses  
25 water distributions affected at Camp Lejeune and

1 sources of contamination, right?

2 A. Yes.

3 Q. Okay. And so we'll discuss the water  
4 distribution systems and the sources in more detail  
5 a bit later, but I wanted to focus your attention  
6 to the bottom of the slide. It states "1989 EPA  
7 listed both the dry cleaner and Camp Lejeune, CL,  
8 Camp Lejeune, on the national priorities list,  
9 which triggers ATSDR's involvement." And I think  
10 you mentioned this earlier, but is that your  
11 understanding?

12 A. That's my understanding. It was the --  
13 just to clarify, it would have been the off-base  
14 dry cleaner.

15 Q. Okay.

16 A. Okay. There's an on-base dry cleaner.

17 Q. Understood. And thank you for that  
18 clarification. And the first bullet point says  
19 "offsite dry cleaner", correct?

20 A. Right.

21 Q. And would that have -- the offsite dry  
22 cleaner is ABC Cleaners?

23 A. That is correct.

24 Q. So this -- where it says the NPL  
25 triggers ATSDR's involvement --

1           A.    Can you pull the slide back on to this  
2 screen?  Thank you.  Okay.

3           Q.    Where it says national priorities list  
4 triggers ATSDR's involvement, is that your  
5 understanding as well in terms of how ATSDR became  
6 involved with looking at Camp Lejeune?

7           A.    Yes.

8           Q.    Okay.  And I think you -- you said this  
9 earlier in your testimony.  Let's go to slide five.  
10 And I believe you already said this, but this says  
11 "CERCLA" -- The Comprehensive Environmental  
12 Response, Compensation and Liability Act of 1980 --  
13 "requires ATSDR to conduct public health  
14 assessments at all NPL sites.  ATSDR is required to  
15 revisit sites until they are removed from the NPL."

16                   Is that your understanding?

17           A.    That is my understanding.

18           Q.    Okay.  Let's go to slide six.  So  
19 according to this slide, there was a Camp Lejeune  
20 public health assessment performed in 1997; is that  
21 correct?

22           A.    That is correct.

23           Q.    Are you familiar with the 1997 public  
24 health assessment?

25           A.    Yes, I am.



1 Q. Can you tell me about it?

2 A. It was a standard health assessment,  
3 again, as we discussed, that ATSDR was required  
4 under law to conduct. And out of the health  
5 assessment there were questions about exposure to  
6 contaminated drinking water, specifically to  
7 children, but the health -- and at that time there  
8 were very, very few studies that could be used or  
9 relied upon to determine if this was a potential  
10 health problem or not.

11 Q. Okay.

12 A. So the recommendation is to conduct  
13 health -- health studies on children.

14 Q. Okay. And so one of the  
15 recommendations that came out of the 1997 public  
16 health assessment was to study whether there was an  
17 association between Camp Lejeune drinking water and  
18 specific birth defects and childhood cancers?

19 A. Yes.

20 Q. Okay. I saw in some of the documents  
21 produced in the case that there was mention of  
22 criticism around the 1997 public health assessment.  
23 Do you know what that's referring to?

24 A. Yes.

25 Q. Can you tell me about that?

1           A.    The 1997 health assessment, I believe,  
2    did not have any emphasis or data on benzene  
3    contamination.  And also it had -- I think they  
4    were provided with an incorrect startup date for  
5    one of the water treatment plants.

6           Q.    Okay.  Where was the -- or where or who  
7    was the criticism coming from?

8           A.    Well, I became aware of the criticism  
9    in one of the Camp Lejeune advisory panel meetings,  
10   the CAP meetings, that was brought up.

11          Q.    Who -- who brought that up to you?

12          A.    I don't recall a specific person, but  
13   it was brought up.

14          Q.    Okay.

15          A.    Excuse me.

16          Q.    Was it a member of the CAP?

17          A.    Yes.

18          Q.    And do you recall the conversation?

19          A.    Well, they were requesting ATSDR to  
20   withdraw the health assessment because of those  
21   omissions or errors and there were a number of  
22   other issues that they brought up.  I don't recall  
23   them specifically.  And they based that because we  
24   were at the time -- not 1997, but when that request  
25   from the CAP came through at a CAP meeting, we were

1 in the process of conducting this historical  
2 reconstruction of Tarawa Terrace and they said,  
3 well, you're going to have new information, you  
4 need to do a new health assessment.

5 Q. Aside from the member of the CAP that  
6 -- from whom you became aware about the criticism  
7 of the '97 public health assessment, are you aware  
8 of any public criticism of the '97 -- 1997 public  
9 health assessment?

10 A. Well, I mean, by public, my colleagues  
11 on the health study side would -- would also state  
12 what the issue -- that there were issues with the  
13 public health assessment.

14 Q. To the best of your recollection, did  
15 -- did any Congress members criticize the study?

16 A. I don't recall that.

17 Q. Okay. So coming out of the -- the 1997  
18 public health assessment was the recommendation to  
19 perform another health study related to Camp  
20 Lejeune water and birth defects in childhood  
21 cancers, right?

22 A. It was to perform a health study.  
23 There wasn't any past health study.

24 Q. To perform a future health study --

25 A. Yes.

1 Q. -- correct?

2 How did the decision come about to  
3 perform water modeling related to Camp Lejeune?

4 A. One of the epidemiologists in the  
5 Division of Health Studies at ATSDR was aware of  
6 the work that we did in New Jersey, in Dover  
7 Township, and so he came to me and said, do you  
8 think you could apply those same techniques to Camp  
9 Lejeune because we are writing a health study and  
10 we want to be able to quantify past exposures, and  
11 that seems like the only technique that -- that's  
12 viable and that has been proven to be useful that  
13 we could use in our health study.

14 Q. Was -- was that epidemiologist, was  
15 that Dr. Frank Bove?

16 A. Yes.

17 Q. Was anyone else involved in the  
18 decision-making process to move forward with the  
19 Camp Lejeune water modeling?

20 A. Well, my immediate supervisor, excuse  
21 me, division management and obviously agency  
22 leadership would have had to be involved because of  
23 the budgetary issues associated with that, but I  
24 was only involved from the technical scientific  
25 standpoint.

1           Q.     Understood.   And so the purpose of the  
2     water modeling was to support that epidemiological  
3     study related to childhood cancers and birth  
4     defects, correct?

5           A.     Yes.

6           Q.     Would you agree that, generally  
7     speaking, a person's exact exposure to contaminated  
8     water at Camp Lejeune is unknown?

9           MR. DEAN:   Object to the form of the  
10    question.   If you're asking him about some -- some  
11    opinion he had before July of '22, then you're free  
12    to discuss it with him, but...

13   BY MR. ANWAR:

14           Q.     Yeah.   And you can assume for purposes  
15    of our --

16           MR. ANWAR:   So -- and you can have an  
17    standing objection to that.

18   BY MR. ANWAR:

19           Q.     And for purposes of all of my  
20    questions, you can assume that I'm not asking about  
21    the period --

22           A.     Okay.

23           Q.     -- from which you were retained as a  
24    consulting expert, so --

25           A.     Okay.   Could you repeat the question?

1           Q.     Sure.  Would you agree that, generally  
2 speaking, a person's exact exposure to contaminated  
3 water at Camp Lejeune is unknown?

4           MR. DEAN:  Object to the form of the  
5 question.  You're asking him for an expert opinion,  
6 correct?

7           MR. ANWAR:  I'm asking him for his --

8           MR. DEAN:  No, I need to understand --  
9 you're asking for an expert opinion and expert  
10 opinions in this case are not yet due.

11          MR. ANWAR:  You can make your  
12 objection.  Unless you're instructing him not to  
13 answer, Mr. Maslia, you can answer.

14          MR. DEAN:  Just give us -- give me just  
15 two seconds.

16          MR. ANWAR:  And let me -- let me  
17 rephrase the question.

18          MR. DEAN:  Let me solve this problem  
19 and say that I'm not going to instruct this witness  
20 not to answer this question, but you do know that  
21 expert opinions to which we anticipate Mr. Maslia  
22 providing expert opinion in this case at some point  
23 in time are not yet due.  They are not refined.  
24 They are not complete, and his work continues  
25 today.  So I'm not going to instruct him not to

1 answer the question, but understand it's subject to  
2 later modification or changes. And I understood we  
3 were here to talk about the facts, but, again, you  
4 can continue with my caveats.

5 MR. ANWAR: Yeah. And I'm not asking  
6 for his retained expert opinion. I'm asking for  
7 his opinion as the ATSDR employee who oversaw the  
8 dose reconstruction program at ATSDR. And I'm not  
9 ask about any discussions that have taken place  
10 since you all have retained him as a consulting  
11 expert.

12 BY MR. ANWAR:

13 Q. So with that in mind as the -- the  
14 employee, the project officer of the dose  
15 reconstruction program at ATSDR, would you agree  
16 that, generally speaking, a person's exact exposure  
17 to contaminated water at Camp Lejeune is unknown?

18 MR. DEAN: Same objection.

19 THE WITNESS: I think we need to  
20 understand the relationship of the water modelers  
21 and the exposure-dose reconstruction program to the  
22 health study side. We always kept ourselves  
23 blinded to any characterization of exposure or not  
24 exposure. We just focused on providing  
25 concentrations of -- of water delivered from the

1 water treatment plants. So we were never involved  
2 in populations or studies or specific individuals.  
3 I really -- that's -- I could not answer that  
4 question.

5 BY MR. ANWAR:

6 Q. Okay. And my understanding of the --  
7 the purpose of the Camp Lejeune water modeling was  
8 to simulate estimates of monthly contaminant levels  
9 in Camp Lejeune drinking water; is that right?

10 MR. DEAN: Object to the form of the  
11 question.

12 THE WITNESS: It was to reconstruct  
13 historical concentrations.

14 BY MR. ANWAR:

15 Q. Using a computer model, correct?

16 MR. DEAN: Object to the form of the  
17 question.

18 THE WITNESS: Using -- using a variety  
19 of techniques.

20 BY MR. ANWAR:

21 Q. And you were reconstructing estimates  
22 of the monthly concentration levels of contaminants  
23 in the water at Camp Lejeune, correct?

24 A. So we reconstructed mean monthly  
25 concentrations.



1           Q.     Okay.  Now with respect to the  
2     Tarawa -- I always butcher this, the TT, Tarawa  
3     Terrace modeling, if I recall correctly, there were  
4     estimated mean monthly concentrations, but it also  
5     included estimated median concentrations on the  
6     distribution curve as well as the 2.5 percentile  
7     and the 97.5 percentile; is that right?

8           A.     Yeah, a number of different analyses,  
9     okay?  The numbers you're referring to come out of  
10    a number of different analyses.

11          Q.     With respect to the Hadnot  
12    Point/Holcomb Boulevard modeling, if my memory is  
13    correct, it looks like you -- you reconstructed  
14    estimates of -- or attempted to reconstruct  
15    estimates of mean monthly concentrations only; is  
16    that right?

17          A.     We could take the same estimates that  
18    we did for Tarawa Terrace.

19          Q.     Okay.  So does the Holcomb Boulevard --  
20    excuse me, the Hadnot Point/Holcomb Boulevard also  
21    include median estimates and the 2.5 percentile?

22          A.     I would have to look in my summary of  
23    findings reports or whatever to...

24          Q.     Okay.

25          A.     We would have probably mentioned some

1 means in there.

2 Q. Okay. We can get back to that  
3 question. We can take a look a little later. You  
4 didn't work on the childhood cancers and birth  
5 defects studies, correct?

6 A. No, no.

7 Q. No as in correct you didn't work on it,  
8 correct?

9 A. I did not work on anything related to  
10 epidemiology, which that would have been under.

11 Q. And that's because you're not a  
12 toxicologist or epidemiologist, right?

13 A. That is part of it, but, again, in  
14 order to retain scientific objectivity, we had to  
15 be blinded. The water modelers had to be blinded  
16 to the epidemiology. The results we presented had  
17 to be robust and applicable to anywhere the  
18 epidemiologists wanted to use them. So that -- we  
19 maintained, you know, distinction and purposefully  
20 did not ask for nor did we ever receive anything  
21 related to the epidemiology.

22 Q. Okay. So you weren't involved in  
23 ATSDR's epidemiology, correct?

24 A. Not in the Division of Health Studies,  
25 no.

1 Q. And what capacity -- you were involved  
2 to the extent the water modeling was used to  
3 support the health studies?

4 A. That is correct.

5 Q. And just based on our discussion about  
6 your background and your resume, would you agree  
7 that you're not that person or your expertise is  
8 not to determine what levels of any chemical will  
9 cause an illness or put a person at risk for that?

10 A. That is correct.

11 Q. Was -- was Frank Bove the lead ATSDR  
12 epidemiologist that worked on both the childhood  
13 cancer study and the other Camp Lejeune health  
14 studies?

15 A. He was classified as a senior  
16 epidemiologist and there was another person who is  
17 now Dr. Perri Ruckart, and I -- I always dealt -- I  
18 dealt with both of them. I really couldn't say or  
19 do I remember who was designated as, in quotations,  
20 the lead, okay?

21 Q. Do you know when Perri Ruckart,  
22 Dr. Perri Ruckart, left ATSDR?

23 A. I was not aware that she had left.

24 Q. Oh, okay. And has she left ATSDR, or  
25 do you know?

1           A.    I don't know that either.

2           Q.    Okay.  During the entirety of the  
3 period that you were at ATSDR until December 31st,  
4 2017, was Perri Ruckart at ATSDR?

5           A.    I don't know about the early years.  
6 Actually I don't know until we started with Camp  
7 Lejeune in about 2003 that I became aware that she  
8 was involved with the Camp Lejeune project.

9           Q.    As of the time that you left in ATSDR  
10 in 2017, do you know, was Perri Ruckart still  
11 involved in the health studies related to Camp  
12 Lejeune?

13          A.    Yes.

14          Q.    Do you know what she -- where she's at  
15 today or what she's doing today?

16          A.    I do not.

17          Q.    When did ATSDR's water modeling efforts  
18 related to Camp Lejeune start?

19          A.    We wrote an initial proposed work plan.  
20 I'm thinking it was around January of 2003, maybe  
21 January of 2002.  It's an early work plan that  
22 proposed some steps and some timelines and some  
23 budgets like that.  So that's when I would think  
24 that it began.

25          Q.    Early 2003 you developed the timelines,

1 the budgets and sort of the planning phase,  
2 correct?

3 A. That is correct.

4 Q. Sort of at a general level, could  
5 you -- could you describe for me what the work  
6 related to the Camp Lejeune water modeling  
7 entailed?

8 A. Yes. I would like to start by saying  
9 those work plans were developed without any  
10 knowledge of data or databases or anything like  
11 that.

12 Q. Sure.

13 A. But -- so it was a conceptual work plan  
14 from that standpoint, but it gave steps and, again,  
15 literature review, obtaining databases or data,  
16 formulating model input data files. Conducting  
17 groundwater flow, groundwater fate and transport  
18 modeling, water distribution system modeling, and  
19 then publishing the results.

20 Q. Understood. If we go to slide eight.  
21 According to slide eight, it states here that  
22 "2007-2009 Tarawa Terrace water modeling chapter  
23 released"; is that right?

24 A. Well, there's more than one chapter.

25 Q. The entirety of the -- so my reading of

1 that, like, statement is that the first report was  
2 released in 2007 and the last of the reports  
3 related to Tarawa Terrace were released by 2009.

4 A. That is correct.

5 Q. Okay. And when would have the water  
6 modeling efforts related to Tarawa Terrace been  
7 performed, the actual work related to it?

8 A. We started -- we made our first site  
9 visit to Camp Lejeune in July 2003.

10 Q. Okay.

11 A. So a little bit before that. That's  
12 what we considered the -- and that's when we were  
13 told we had the budget to proceed.

14 Q. Understood. And Tarawa Terrace was one  
15 of the three water distribution systems at Camp  
16 Lejeune impacted by VOC contamination, correct?

17 A. That is correct.

18 Q. And when I -- just as kind of like a  
19 general matter, when I refer to Camp Lejeune water  
20 modeling -- or excuse me, when I refer to Camp  
21 Lejeune water contamination, can we agree that I'm  
22 referring to VOC contamination?

23 A. Well, it also involved BTEX  
24 contamination.

25 Q. My understanding -- and we can talk

1 about this more, but when I'm referring to it, I'm  
2 referring to it specifically as to the -- the  
3 chemicals that were modeled in your reports. Can  
4 we agree to that?

5 A. No, we modeled BTEX also.

6 Q. Okay. And is BTEX a VOC or --

7 A. BTEX stands for benzene, toluene,  
8 ethylbenzene and xylenes, and they're products of  
9 fuel -- fuel spills.

10 Q. When you say BTEX are you primary  
11 referring to benzene?

12 A. That's the -- that's primary component,  
13 yes.

14 Q. Okay. So can we -- so let me clarify.  
15 When I -- when I say, hey, water contamination at  
16 Camp Lejeune, can we agree that I am referring to  
17 the VOCs and benzene?

18 A. Yes.

19 Q. Okay. I just want it -- for purposes  
20 of the record, I'm not --

21 A. Right.

22 Q. If there are other chemicals that  
23 you're referring to, please let me know.

24 And so the slide currently on the  
25 screen mentions two challenges. The first

1 challenge is "United States Marine Corps,  
2 Department of Navy delayed data acquisition and  
3 funding decisions." Did I read that correctly?

4 A. You read that correctly.

5 Q. And so I understand from your prior  
6 deposition testimony that there was perhaps some  
7 frustration about the speed with which documents  
8 were provided to the water modeling team at ATSDR  
9 by the Navy and the Marine Corps; is that right?

10 A. That is correct.

11 Q. Okay. But I think in that deposition  
12 you -- you ultimately agreed that the Navy and the  
13 Marine Corps never refused to provide documents  
14 requested by ATSDR?

15 A. I would say we eventually obtained all  
16 the documents, but there was never a sense of  
17 urgency on the part of the Department of Navy or  
18 the U.S. Marine Corps.

19 Q. Okay. But they never refused to  
20 provide documents and you did eventually obtain  
21 them all, correct?

22 A. No, I would not say obtained them all.  
23 Again, we obtained information and documents that  
24 were required for model calibration. And for model  
25 calibration we need specific amounts of information



1 of data, but no more, okay? So we were not in the  
2 process nor did we put into the program a universal  
3 search for all the documents at the Navy or the  
4 Marine Corps.

5 Q. Sure. And I guess my question, I just  
6 wanted to be clear, and this is what you testified  
7 to in your last deposition, but I think you agreed  
8 that the Marine Corps and the Navy never refused to  
9 provide documents to ATSDR?

10 A. That is correct.

11 Q. During the course of ATSDR's water  
12 modeling efforts related to Camp Lejeune, you  
13 received and reviewed historical and other  
14 documents from the Navy and the Marine Corps,  
15 right?

16 A. That is correct.

17 Q. What kind of documents did you review  
18 and receive?

19 A. Anything from CERCLA administrative  
20 record files, which were actually public documents,  
21 to laboratory reports on analyses to underground  
22 storage tank files to water supply well operations  
23 to operations of their water distribution systems.

24 Q. Okay. And my understanding from your  
25 prior deposition testimony is that the cost of

1 ATSDR's water modeling on Camp Lejeune was about  
2 1.5 to 1.8 million per year?

3 A. That would be the budget people. I  
4 could not really answer that, okay? I was never  
5 involved -- I was only involved in submitting the  
6 staff that we needed each year to accomplish what  
7 we needed to accomplish, but that total would have  
8 been out of the -- I forget the specific name of  
9 the office, but it would be up in the office of the  
10 director who handled the budgets and the  
11 communications back and forth with -- with the  
12 Department of Navy.

13 Q. If those are the numbers that you --  
14 you testified to in your 2010 deposition, do you  
15 have any reason to disagree with that?

16 A. Well, those were the numbers probably  
17 at the time because we had to finish Tarawa  
18 Terrace, but I could not say that was necessarily  
19 correct for the entirety of the project.

20 Q. I understand. I appreciate that  
21 clarification. So would you agree that at the time  
22 that you finished the Tarawa Terrace water  
23 modeling, the cost had been averaging 1.5 to  
24 1.8 million per year?

25 A. For Tarawa Terrace, yes.

1 Q. Okay. And with respect to funding, the  
2 Marine Corps and the Navy paid for ATSDR's water  
3 modeling efforts related to Tarawa Terrace, right?

4 A. They funded it under the annual plan of  
5 work that was submitted to them each year.

6 Q. Which means they paid for it, right?

7 A. Yeah.

8 Q. And ultimately ATSDR did receive the  
9 funding it needed to complete water modeling  
10 efforts and epi studies related to Camp Lejeune,  
11 correct?

12 A. I can't speak about the epi studies.  
13 I'll speak about the water modeling as yes.

14 Q. The second challenge on the slide  
15 states "missed milestones. Modeling took longer  
16 than predicted." What missed -- what were the  
17 missed milestones, if you know?

18 A. Well, originally we had proposed a  
19 four-year project. The Navy only wanted to fund a  
20 three-year project. We started and, you know,  
21 someone decided we'll agree down the road how long  
22 the project should go on. You know, in getting the  
23 information that we needed to develop the models,  
24 that took longer because it was more spread out in  
25 desperate locations and, in fact, the Department --

1 Department of Navy hired a consulting firm to do a  
2 search through all of Camp Lejeune to find  
3 additional documents.

4 We also were made aware later in the  
5 game, around 2009, of an undisclosed portal  
6 containing underground storage tanks around 2010 or  
7 2011. We were made aware of another consultant's  
8 report that we were never provided with. So -- and  
9 there were instances of where we were told certain  
10 water supply wells were located in terms of  
11 coordinates and we found maps in their files that  
12 showed it was located someplace else, so we had to  
13 go back and, you know, recalibrate models and stuff  
14 like that.

15 And then I think there was a time when  
16 there was not an agreement on the annual plan of  
17 work and it had to go to arbitration and all the  
18 way up to the Office of the Secretary of Navy to be  
19 settled, so I had to send contractors home.

20 Q. Let's go to the -- the next slide,  
21 nine. It states there -- it states on this slide  
22 "2009 to 2013, Hadnot Point/Holcomb Boulevard water  
23 modeling released." And I interpret that meaning  
24 the first report related to the Hadnot  
25 Point/Holcomb Boulevard water modeling was released

1 in 2009 and the last report related to the Hadnot  
2 Point/Holcomb Boulevard water modeling report -- or  
3 the last report was released in 2013.

4 A. I don't recall 2009 having released. I  
5 would have to look at my reports here.

6 Q. Okay.

7 A. I know 2010 we released a report.

8 Q. Okay.

9 A. And then 2013 the remaining reports  
10 were released, but I would have to look at the  
11 publication date on the specific reports.

12 Q. Understood. So either 2009 or 2010 to  
13 2013?

14 A. Yes, that is correct.

15 Q. And by 2013, the -- the Hadnot  
16 Point/Holcomb Boulevard water modeling had been  
17 completed?

18 A. Yes.

19 Q. And this slide lists the same  
20 challenges that we just discussed. Is -- is this  
21 -- is this referring to the same discussion we had  
22 about Tarawa Terrace?

23 A. Yes.

24 Q. Okay.

25 A. I believe the delay -- or the delay in

1 funding, end date acquisition were probably  
2 impacted more at Hadnot Point/Holcomb Boulevard  
3 area because it was a far more complex area than  
4 Tarawa Terrace.

5 Q. Okay. And I understand there were sort  
6 of disagreements and negotiations and  
7 misunderstandings or however you want to describe  
8 it related to the data gathering.

9 A. I would like to still characterize it  
10 as a lack of urgency.

11 Q. Okay. But the Navy and the Marine  
12 Corps, like we agreed earlier, never refused to --  
13 never refused to provide you information, right?

14 A. Eventually, that is correct.

15 Q. Okay. And the Navy and the Marine  
16 Corps paid for -- or at least you're aware -- well,  
17 they funded and paid for the cost of the water  
18 modeling, correct?

19 A. Yes, that is correct.

20 Q. Now, I understand that you were the  
21 lead on ATSDR's Camp Lejeune water modeling team,  
22 correct?

23 A. That is correct.

24 Q. Who else was on the team?

25 A. Let's see. We had Jason Sautner. Rene

1     Suarez-Soto. Barbara Anderson. We may have had  
2     temporary grad students, but I don't recall their  
3     name without looking through my files. Well, I  
4     mean, files at ATSDR. And there was also our  
5     university partner and they had a number of people  
6     working on it, so -- and then there was Mr. Robert  
7     E. Faye who was a private consultant subcontracted  
8     to ATSDR.

9             Q.     Understood. Thank you.

10            A.     Oh, and I think two more. Dr. Walter  
11     Grayman, at various points in time, we hired as a  
12     consultant. And then for a short period of time, a  
13     few days or a week, we hired Dr. John Doherty,  
14     D-O-H-E-R-T-Y, who is the developer of the PEST,  
15     parameter estimation modeling technique.

16            Q.     Okay. That is helpful. I would like  
17     to go through and ask you about each of the team  
18     members one by one.

19            A.     Okay.

20            Q.     Jason Sautner, he was an ATSDR  
21     employee, right?

22            A.     Yes, yes.

23            Q.     Was he an environmental health  
24     scientist, was that his role or title when --

25            A.     That is my recollection of what his

1 official GS, general service, classification was.

2 Q. Do you recall sort of his educational  
3 and experience background?

4 A. He had -- I know he's got a degree in  
5 civil engineering from Lehigh University.  
6 Obviously Georgia Tech. And he started basically  
7 when we did Toms River, so his expertise was around  
8 water distribution system modeling.

9 Q. Understood. Did you supervise  
10 Mr. Sautner?

11 A. Yes, I did. Now let me clarify that.  
12 I supervised him from a scientific or technical  
13 standpoint. Because I was under the research grade  
14 classification system, I could supervise people at  
15 lower grades or higher grades than me, okay? So --  
16 but I -- I would hand in evaluations annually for  
17 his critique, but it would be my supervisor who  
18 actually did his supervision, administrating  
19 supervision.

20 Q. Understood. And you said Mr. Sautner  
21 worked on water distribution modeling?

22 A. Water distribution system modeling,  
23 yes.

24 Q. System modeling.

25 And was that his role with respect to



1 the Camp Lejeune water modeling?

2 A. Yes, it was.

3 Q. And then Rene Suarez-Soto, he was also  
4 an ATSDR employee?

5 A. He started out as a -- finishing up his  
6 master's under a Pan American Hispanic  
7 Universities, PAHO, procedure or funding --  
8 funding. And then -- and that was run through  
9 ORISE, which is the Oak Ridge Institute for Science  
10 and Education. So he was actually at -- for a few  
11 years -- for probably two or three years, he was a  
12 contractor to ORISE that they assigned to ATSDR.  
13 And then of course when a position became --  
14 full-time position came open at ATSDR, he applied  
15 and was selected to be a full-time ATSDR employee.

16 Q. Got it. Do you recall his sort of  
17 educational and professional background?

18 A. General groundwater modeling,  
19 statistical and probabilistic analysis.

20 Q. And did you -- was that his role on the  
21 Camp Lejeune water modeling team?

22 A. Yes.

23 Q. And did you supervise Mr. Suarez-Soto  
24 in the same way that you just mentioned that you  
25 supervised Mr. Sautner?

1 A. Yes.

2 Q. Was Mr. Suarez-Soto, he was also, at  
3 least at the time that you worked with him, an  
4 environmental health scientist?

5 A. I really don't recall his  
6 classification.

7 Q. Okay. Then I think you mentioned  
8 Barbara Anderson?

9 A. Right.

10 Q. She was also an ATSDR employee?

11 A. Yes.

12 Q. Was she also an environmental health  
13 scientist?

14 A. Again, I don't know what she was  
15 classified as.

16 Q. Do you recall her educational and  
17 professional background?

18 A. Not specifically, but I know she -- her  
19 focus on the Camp Lejeune project was data  
20 analysis. Excuse me.

21 Q. And I know we're getting close to noon  
22 and we agreed to take a noon break, so I could do a  
23 couple more minutes of questioning or --

24 MR. DEAN: That's fine.

25 BY MR. ANWAR:

1 Q. Okay. Were there any other, I guess,  
2 formal ATSDR employees involved in the Camp Lejeune  
3 water modeling efforts?

4 A. Not that I recall.

5 Q. And then I think there were some  
6 consultants that also worked on the team, right?

7 A. Yes, yes.

8 Q. And you mentioned the university  
9 partners. Was -- are you referring to Mustafa Aral  
10 and some of the grad students from Georgia Tech?

11 A. Yes, yes.

12 Q. And Mustafa Aral is the professor from  
13 Georgia Tech that we've talked about, correct?

14 A. Yes.

15 Q. And I think you described him as the  
16 director of multimedia environmental simulations  
17 laboratory --

18 A. That is correct.

19 Q. -- at Georgia Tech?

20 A. That is correct.

21 Q. What was his role on the Camp Lejeune  
22 water modeling team?

23 A. When we had a technical or scientific  
24 issue or we needed an analysis that went beyond  
25 what's just publicly available in terms of pulling

1 something off the shelf, for example, Holcomb  
2 Boulevard, the intermittent release of water from  
3 Hadnot Point to Holcomb -- Holcomb Boulevard  
4 required a special analysis. And so we would -- I  
5 would call under the corporative agreement he can  
6 speak with the principal investigator.

7 Q. Okay.

8 A. So I would call him and we would  
9 discuss what our objectives, what we needed, and  
10 then he would assign graduate students to conduct  
11 those analyses.

12 Q. Understood.

13 A. And their names are listed on -- as  
14 coauthors on some of these reports, so...

15 Q. You also mentioned Robert Faye?

16 A. That is correct.

17 Q. Who is Robert Faye?

18 A. I first professionally met -- and I  
19 refer to him as Bob Faye -- when we were both at  
20 the U.S. Geological Survey.

21 Q. Okay.

22 A. And he retired and I retired. And when  
23 we were doing Toms River we needed -- again, ATSDR  
24 was not allowed to hire full-time employees. They  
25 had a hiring freeze almost continuously on, but we

1 were able to go through, like, Eastern Research  
2 Group or ORISE and things like that, so we hired  
3 him through Eastern Research Group to assist us on  
4 the modeling at Toms River, New Jersey. And then  
5 when the Camp Lejeune activities came up -- and  
6 he's a very senior experienced geohydrologist, so  
7 we hired him again through -- I say we hired him,  
8 Eastern Research Group hired him. He's  
9 subcontracted to ATSDR.

10 Q. Understood. And I think I also saw  
11 some references to probably his consulting company,  
12 R.E. Faye and Associates?

13 A. That's correct, yes.

14 Q. And did Mr. Faye, he worked on  
15 groundwater modeling?

16 A. Yes.

17 Q. And then you also mentioned Walter  
18 Grayman.

19 A. Yes.

20 Q. Who is Walter Grayman?

21 A. Walter Grayman is an internationally  
22 renowned consulting engineer and one of the early  
23 developers of water distribution system modeling in  
24 the mid-1980s. And again, we became aware of him  
25 when we were working on the Toms River, New Jersey

1 site. We asked for his advice or input. And then  
2 when we got to Camp Lejeune, at times we needed  
3 also his advice and assistance in conducting field  
4 studies and characterizing the water distribution  
5 system.

6 Q. And he worked on water distribution  
7 modeling?

8 A. Yes.

9 Q. Okay. And I asked that generally, but  
10 he worked on water distribution modeling as it  
11 relates to the Camp Lejeune modeling, correct?

12 A. He did not do the day-to-day number  
13 crunching, but, again, in modeling you have to set  
14 up first your conceptual model and then decide what  
15 techniques would best be used for that, what field  
16 data you might need, and so he provided us with  
17 consulting services and input into that as well as  
18 when we went out in the field to collect water  
19 distribution system data, he, Bob Faye, and others  
20 came out during the field test to assist us to  
21 collect the data.

22 Q. Understood. And I just have a couple  
23 more questions and then we can take a break.

24 I saw in one of the slides, I think one  
25 of your presentations, a reference to the U.S.

1 Geological Survey and then like maybe like a  
2 Georgia Water Institute or something like that.  
3 Does that ring any bells? Did you have any  
4 consultants with the USGA -- or USGS?

5 A. Not consulting. They would ask me  
6 every now and then to come present work, because  
7 the work at Camp Lejeune was not the standard  
8 run-of-the-mill groundwater flow modeling, water  
9 distribution system modeling or site analysis. So  
10 every now and then, both locally in Georgia and at  
11 USGS headquarters in Reston they would put on  
12 workshops or whatever, and so they knew of me from  
13 my days at USGS. They would ask me to present, and  
14 it was a good opportunity to teach their  
15 hydrologists and also a good opportunity for ATSDR  
16 to receive critical feedback on what we were doing.

17 Q. Understood. Did you put the water  
18 modeling team related to Camp Lejeune together?

19 A. Yes.

20 Q. And I guess you've explained it to some  
21 degree already, but why did you select the  
22 individuals that you selected?

23 A. Jason Sautner was already assigned to  
24 the exposure-dose reconstruction program. When I  
25 wrote up the work -- initial work plan, I obviously

1 indicated in there we would need some more staff,  
2 so that's when Rene Suarez-Soto came in, and being  
3 right out of college and all of that, that's, you  
4 know, a young engineer that we can mentor and bring  
5 along like that. Obviously Georgia Tech had their  
6 expertise nationally and internationally and all of  
7 that.

8 And then, again, Mr. Robert Faye, my  
9 knowledge of his specific expertise in  
10 geohydrology, which I knew we would need to look at  
11 geohydrologic information at Camp Lejeune. And  
12 then of course Walter Grayman is from the water  
13 distribution side and, again, as I said, he's  
14 internationally recognized, so...

15 Q. Were you happy with the performance of  
16 your team?

17 A. Absolutely.

18 Q. Okay.

19 A. And I might add Barbara Anderson, she  
20 did not work for the project full time.

21 Q. Okay. And you were satisfied with the  
22 performance of your team?

23 A. Yes, absolutely.

24 MR. ANWAR: Why don't we take break  
25 there.



1 THE VIDEOGRAPHER: Going off the  
2 record. The time is 12:05 p.m.

3 (A luncheon recess transpired.)

4 THE VIDEOGRAPHER: Going back on the  
5 record. The time is 12:51 p.m.

6 BY MR. ANWAR:

7 Q. We are back on the record from a short  
8 break, a lunch break. Mr. Maslia, are you okay to  
9 continue?

10 A. Yes, I am.

11 Q. Okay. And during the lunch break, did  
12 you discuss the substance of your testimony with  
13 your lawyers at all?

14 A. Not at all.

15 Q. When we concluded before the lunch  
16 break, we had just finished up a conversation about  
17 the water modeling team. Do you recall that?

18 A. Yes.

19 Q. There was one person I forgot to ask  
20 you about, so I wanted to revisit. You had  
21 mentioned a John Doherty and I think you said test  
22 parameter estimation, something like that.

23 A. Yes.

24 Q. Could you -- could you tell me who John  
25 Doherty is?

1           A.    Yeah, one of the more advanced  
2 techniques that are sometimes applied, depending on  
3 the situation, is an automated way of estimating  
4 model parameters. It would be called parameter  
5 estimation techniques. They are based on objective  
6 stochastic and statistical methods. He is  
7 internationally renowned as being in the forefront  
8 of developing those. And he's out of Australia,  
9 but he occasionally makes trips to the U.S. --

10          Q.    Okay.

11          A.    -- to teach or lecture or do whatever.  
12 And he is the developer of the PEST -- all  
13 uppercase P-E-S-T code that is used either  
14 independently of models or incorporated in some  
15 models. And so when we got to the Hadnot Point and  
16 Holcomb Boulevard, we were -- it was far more  
17 complex than Tarawa Terrace would be, and found out  
18 he was going to be in the U.S., so we figured we  
19 could benefit from his expertise at ATSDR for a few  
20 days or a week at most. And so he came down and  
21 gave us some guidance in using the PEST model which  
22 we used and is described in the Tarawa -- the  
23 Hadnot Point and Holcomb Boulevard reports.

24          Q.    Understood. Thank you.

25                Did he only work on your team with

1 respect to Hadnot Point/Holcomb Boulevard modeling?

2 A. Yes.

3 Q. Okay. And could you describe for me a  
4 little bit more about what he specifically did as  
5 it relates to the Hadnot Point/Holcomb Boulevard  
6 modeling?

7 A. Well, the application of parameter  
8 estimation is a complex endeavor. And you don't  
9 just throw numbers at it. You have to understand  
10 about parametrization and the statistics and what  
11 you want to get out of it and stuff like that. So  
12 he sort of helped us get the program going and  
13 apply it to the Hadnot Point groundwater flow and  
14 transport models as well as the water distribution  
15 system models, and that's described in the -- the  
16 Hadnot Point/Holcomb Boulevard Chapter A, which is  
17 the summary of findings and the supplements.

18 Q. Okay. I've got it. Thank you.

19 So let's turn to slide eight.

20 MR. DEAN: Slide -- so we're back on  
21 the same Exhibit 7?

22 MR. ANWAR: Yes, we're, I think, back a  
23 slide.

24 BY MR. ANWAR:

25 Q. And on slide eight, do you see it says

1 "2006 Community Assistance Panel convened?"

2 A. Uh-huh.

3 Q. Is that your understanding of when the  
4 Community Assistance Panel was convened?

5 A. Yes. I was not directly involved in  
6 convening it or putting it together, but that seems  
7 to be around the time that I remember.

8 Q. Okay. What is the Community Assistance  
9 Panel or the CAP as it relates to Camp Lejeune?

10 A. That was -- that was a recommendation  
11 from Congress. They had had a health studies  
12 expert panel in 2005, so one of the recommendations  
13 that -- a congressionally mandated expert panel for  
14 the health studies part. And they saw that the  
15 affected community at Camp Lejeune, being  
16 widespread and disbursed out, really did not have  
17 any representation in assessing their health --  
18 health conditions. And so it was put together and  
19 they, you know, provided input to ATSDR, not in  
20 decision-making, but just about historical issues  
21 related to Camp Lejeune.

22 Q. And is that where it says "involvement"  
23 on the slide, "recommendations of 2005 CL  
24 Scientific Advisory Panel", is that the panel  
25 you're referring to that Congress mandated?

1 A. Yes, yes, yes.

2 Q. Did you attend that expert panel?

3 A. Yes.

4 Q. Could you describe for me generally  
5 what the discussion was at that panel?

6 A. I was limited, really, to just talking  
7 about, you know, groundwater modeling there. It  
8 was primarily focused on health affects, health  
9 studies. What additional health studies may be  
10 undertaken by ATSDR or what health studies should  
11 be undertaken. So it was primarily a health  
12 studies panel.

13 Q. Do you recall who else attended that  
14 panel?

15 A. I know a couple of ATSDR people did and  
16 the chair. I remember their names.

17 Q. Okay. What are their names?

18 A. The chair was Dr. Cantor. I believe  
19 that's K-A-N-T-O-R [sic]. And they had some other  
20 panel members, but because they were in the epi/tox  
21 health, I really did not know of them  
22 professionally. And then it was Dr. Bove and Perri  
23 Ruckart. There may have been other ATSDR  
24 management people there.

25 Q. Understood. Do you know Dr. Cantor's

1 first name?

2 A. Not off the top of my head.

3 Q. Okay. Were there any CAP members at  
4 the panel? The CAP hadn't been formed yet, right?

5 A. Right. There may have been some  
6 community members, but I don't recall specifically.

7 Q. Okay. Then on the slide it lists  
8 challenges. One is perception of lack of  
9 transparency. Untimely provision of information.  
10 And then two is -- well, so wait. Let's focus on  
11 one. Do you know what that's referring to?

12 A. I believe the CAP felt that they should  
13 be provided information on a regular basis as to  
14 what the ATSDR was doing, what the Department of  
15 Navy/USMC was providing to ATSDR and the progress  
16 of the health studies. And so they wanted a more  
17 open -- open process.

18 Q. It was the CAP that wanted that  
19 process?

20 A. Yes.

21 Q. Okay. And then --

22 A. They wanted it more formalized.

23 Q. Understood. Do you know what steps  
24 were taken to, I guess, formalize it?

25 A. There are documents at ATSDR that you

1 could, I assume, pull down from the Camp Lejeune  
2 website at ATSDR that describes the CAP, and that  
3 would probably be a better approach than asking me.

4 Q. Okay. Fair enough. And then number  
5 two under challenges is frustration with missed  
6 milestones?

7 A. Right.

8 Q. Do you know what that's referring to?

9 A. Probably the health study because the  
10 health study was waiting for results from the water  
11 modeling.

12 Q. When you set out to do the initial  
13 Tarawa Terrace water modeling, I think before the  
14 break you told me you-all started setting, like,  
15 timelines and budgets in 2003, right?

16 A. Somewhere around there, yes.

17 Q. What was your original goal to complete  
18 the Tarawa Terrace modeling?

19 A. We thought we could complete it in four  
20 years with a caveat depending on the information  
21 that we needed, okay? Again, we did not know what  
22 information we needed operari other than general  
23 types with models required, but not specific to  
24 Camp -- Camp Lejeune, okay? So that's -- that's  
25 what we -- we said that...

1           Q.    Would you say it's fair to characterize  
2   the sort of data gathering process at Camp Lejeune  
3   as a large undertaking?

4           A.    Yes.

5           Q.    And I think you mentioned this already,  
6   but could you remind me what the purpose of the CAP  
7   is?

8           A.    The actual full description of what the  
9   CAP is is described in the documents on the ATSDR  
10  website.  We would provide them with regular  
11  updates, quarterly updates, as the progress of  
12  water modeling results or problems we were  
13  encountering.  Health studies would provide them  
14  with what they were working on, and the CAP would  
15  provide feedback as to what some of the issues the  
16  community felt needed to be addressed.

17          Q.    Was the CAP compromised only of  
18  community members?

19          A.    At some point there were some  
20  representatives of the U.S. Marine Corps,  
21  Department of the Navy, and Veterans  
22  Administration, but I don't know if they were just  
23  brought in as technical-type people or  
24  representatives of those agencies.  I don't know if  
25  they were officially on the CAP or not.  You would



1 have to look that up.

2 Q. Okay. Do you recall how much input the  
3 CAP had on the water modeling project related to  
4 Camp Lejeune and/or the epi studies?

5 A. They might bring us a document that  
6 they found saying, you know, there's this  
7 contamination here or there and all of that. And  
8 then, you know, we would have to look at the  
9 document and see if it's scientifically acceptable  
10 or that we need to do further research or  
11 investigation on to obtaining other documents to  
12 corroborate that. There were members of the CAP  
13 that actually served time at Camp Lejeune, so if we  
14 had a question about a housing area or, you know, a  
15 water treatment plant type thing they -- they --  
16 they could provide us sometimes some very useful  
17 information.

18 Q. Who are the members of the CAP that  
19 served at Camp Lejeune?

20 A. It -- it varied. I remember -- I mean,  
21 two of them I know of, but there were others and I  
22 don't recall their names. Again, ATSDR has on its  
23 website the quarterly CAP meetings and you can pull  
24 them and find out who the CAP members were.

25 Q. Who are the two that you recall?

1 A. Mike Partain and Jerry Ensminger.

2 Q. Okay.

3 MR. ANWAR: Can -- can you go to slide  
4 22. Yeah, 23.

5 THE WITNESS: Okay.

6 BY MR. ANWAR:

7 Q. So slide 23 --

8 A. Yeah, that's not pulled up on my  
9 screen.

10 MR. DEAN: I'm sorry. What?

11 THE WITNESS: 23.

12 MR. DEAN: 23. What's -- it's not  
13 numbered on here. Bates stamp, can you tell me the  
14 last three, four -- 37.

15 MR. ANTONUCCI: 86.

16 MR. DEAN: 86.

17 THE WITNESS: There you go. One more  
18 slide. Okay. That's -- okay. Now I see it.

19 BY MR. ANWAR:

20 Q. And so this -- this slide is focused on  
21 the CAP and it says "the purpose of these panels is  
22 to, one, enhance effective communication of  
23 environmental health concerns to ATSDR by the  
24 public and to establish an avenue for ATSDR to  
25 inform the community of site specific scientific

1 finds as they become available." And then two, it  
2 says "provide a means for community participation  
3 in ATSDR activities." Did I read that correctly?

4 A. Yes.

5 Q. Okay. And is that your understanding  
6 -- or is that consistent with your understanding of  
7 the purpose of the CAP?

8 A. My understanding with respect to  
9 provide means of community participation would  
10 be -- I would add in an advisory role, okay? They  
11 didn't influence the ATSDR policy, but they could  
12 provide advice.

13 Q. And then underneath there it lists the  
14 members of the CAP --

15 A. Right.

16 Q. -- as of 2014.

17 A. Uh-huh.

18 Q. And you mentioned Jerry Ensminger and  
19 Mike Partain. Who is -- well, and then there's  
20 also listed Dr. Richard Clapp and he is denoted, I  
21 think, as one of the original members of the CAP.  
22 Is that consistent with your understanding?

23 A. I don't know if he was original or not,  
24 but he was a technical expert to the CAP. The CAP  
25 could have technical experts as part of their

1 committee.

2 Q. Do you know what he was a technical  
3 expert in?

4 A. Public health and epidemiology.

5 Q. For as long as you were at ATSDR, were  
6 Jerry Ensminger, Mike Partain, and Dr. Richard  
7 Clapp part of -- or, yeah, Dr. Richard Clapp part  
8 of the CAP?

9 A. Jerry Ensminger and Mike Partain were.  
10 I don't know when exactly Dr. Clapp got assigned to  
11 the -- to the CAP.

12 Q. Okay. Did -- prior to 2014, were there  
13 other members of the CAP that aren't listed here?

14 A. Yes, but I wouldn't -- I don't recall  
15 their -- their names.

16 Q. Okay. And I don't think I asked you  
17 this before. Who is Jerry Ensminger?

18 A. He's a retired Marine that's a  
19 community activist.

20 Q. Okay. And what about Mike Partain?

21 A. He is the son of a Marine, or his  
22 parents resided at Camp Lejeune, and developed male  
23 breast cancer at the age of 35.

24 Q. Is Mr. Partain also -- would you view  
25 him as a community activist?

1 MR. DEAN: Object to the form of the  
2 question.

3 THE WITNESS: I really couldn't say  
4 about Mr. Partain.

5 BY MR. ANWAR:

6 Q. Okay. Do you know who Lori Freshwater  
7 is?

8 A. I know of her, yes.

9 Q. Who is she?

10 A. She was a member of the CAP. I believe  
11 she's -- has something to do with -- with the news  
12 reporting type -- type industry. Well, I mean,  
13 that's her occupation.

14 Q. Okay. Do you know her personally?

15 A. No.

16 Q. Who is Christopher Orris, if you know?

17 A. Yeah, I don't know.

18 Q. Okay. Who is Tim Templeton, if you  
19 know?

20 A. A member of the CAP. Again, I don't  
21 recall when he was appointed to the CAP, but he was  
22 a member of the CAP.

23 Q. Then we -- we discussed Dr. Ken Cantor.

24 A. Right.

25 Q. Who is Gavin Smith?

1           A.    I -- I do not know.

2           Q.    Okay.  Are there any members of the CAP  
3   that are not listed of -- like past members of the  
4   CAP that aren't listed here but you recall?

5           A.    Not -- not really.  I would have to go  
6   through the ATSDR CAP meeting transcripts to...

7           Q.    Okay.  Understood.  Could we  
8   fast-forward to -- it's slide 26.  Oh, there it is.  
9   Slide 26 ending in Bates range 3789.

10           THE WITNESS:  Kevin, can you pull up  
11   there --

12           MR. DEAN:  I'm sorry.  What page?

13           MR. ANWAR:  It's slide 26 ending in  
14   Bates range 3789.

15           BY MR. ANWAR:

16           Q.    And it says "why important?"  And then  
17   if we scroll to the very next slide there's a  
18   slide.  It's called H.R. 1742, the Janey Ensminger  
19   Act.  And I'll read the text.  It says "to amend  
20   Title 38 United States Code to direct the Secretary  
21   of Veterans Affairs to establish a presumption of  
22   service connection for illnesses associated with  
23   contaminants in the water supply at Marine Corps  
24   base Camp Lejeune, North Carolina and to provide  
25   health care to family members of veterans who lived

1 at Camp Lejeune while the water was contaminated."

2 Did I read that correctly?

3 A. Yes.

4 Q. With you familiar with the Janey  
5 Ensminger Act?

6 A. Yes.

7 Q. What was your understanding of it?

8 A. It was signed by President Barack  
9 Obama. The exact year I don't know. Maybe 2012 or  
10 so.

11 Q. And is it this act that established  
12 presumptions of service connection for illnesses  
13 related to exposure to water at Camp Lejeune as --

14 MR. DEAN: Object -- object to the form  
15 of the question.

16 BY MR. ANWAR:

17 Q. Okay. Let me -- let me rephrase it.  
18 Based on your -- what is your understanding of what  
19 the Janey Ensminger Act did?

20 A. I don't have a specific understanding.  
21 I never actually read the act. In general it  
22 provided health care for family members.

23 Q. Okay.

24 A. But that's all that -- I don't know any  
25 other specifics.

1           Q.    Okay.  And when you say health care, do  
2   you mean through the VA or...

3           A.    I'd really have to read -- read the  
4   act.

5           Q.    Okay.  Who is Janey Ensminger?

6           A.    It's the deceased daughter of Jerry  
7   Ensminger.

8           Q.    Okay.  If you go to the next slide,  
9   that slide says "President Obama signed the bill  
10  into law on August 6, 2012."  Did I read that  
11  correctly?

12          A.    Yes.

13          Q.    And that's consistent with your  
14  understanding that it was passed in 2012, correct?

15          A.    That's correct.

16          Q.    Okay.  And then it says "the bill  
17  applies to 15 specific ailments believed to be  
18  linked to contamination."  And then it lists those.  
19  Do you have any understanding of that?

20          A.    Just what it says on the slide.

21          Q.    Okay.  Aside from what it says on the  
22  slide, you don't have any understanding of the  
23  Janey Ensminger Act aside from that it provides  
24  health care?

25          A.    Not the legal or political



1       ramifications of the act.

2               Q.     Okay.  Would you agree that ATSDR's  
3       water modeling efforts and health studies related  
4       to Camp Lejeune were used to help make policy  
5       decisions in passing this bill?

6               MR. DEAN:  Help.  Object to the form of  
7       the question.  You used the word "help", so it's an  
8       opinion.  So object to the form of the question.  I  
9       mean, you can rephrase your question if you want  
10      to, but...

11              MR. ANWAR:  I mean, I'll ask it again,  
12      and you can object to form, but I'm asking for your  
13      understanding.

14      BY MR. ANWAR:

15              Q.     Would you agree that ATSDR's water  
16      modeling efforts and health studies related to Camp  
17      Lejeune were used in some manner to make policy  
18      decisions that ultimately led to the passage of the  
19      Janey Ensminger Act?

20              MR. DEAN:  Object to the form of the  
21      question.

22      BY MR. ANWAR:

23              Q.     You can answer.

24              A.     Okay.  The policy issue is well, well,  
25      well above my pay grade when I was in ATSDR.  The

1 water distribution system modeling, again, provided  
2 mean monthly concentrations and if someone saw that  
3 they were above a certain health criteria, they may  
4 have considered that in the act, but I don't know  
5 of a direct linkage between what we did -- I was  
6 never asked to provide input to the legislation.

7 Q. Okay. Let's pull up what we'll mark as  
8 Exhibit 7 -- no, exhibit --

9 MS. BAUGHMAN: Eight.

10 MR. ANWAR: Eight.

11 (DFT. EXHIBIT 8, letter from Department  
12 of Health and Human Services dated January 16,  
13 2013, was marked for identification.)

14 MR. DEAN: Is it in Dropbox? I mean,  
15 in -- what's it called? I don't see it in the --

16 MR. ANTONUCCI: I can add it right now.  
17 Sorry about that.

18 MR. DEAN: Okay.

19 MR. ANTONUCCI: It's in the shared  
20 folder marked as Exhibit 8.

21 MR. DEAN: Okay. Got it.

22 THE WITNESS: Okay.

23 MR. ANWAR: And would you mind zooming  
24 into it a little bit.

25 BY MR. ANWAR:

1           Q.    I'll just represent to you that -- that  
2   I just pulled this letter from ATSDR's website and  
3   it looks to be -- to me to be a letter dated  
4   January 16, 2013 addressed to General Allison  
5   Hickey of the Under Secretary for Benefits at the  
6   VA from a Christopher Portier the, at the time,  
7   director for the National Center of Environmental  
8   Health and Agency for Toxic Substances and Disease  
9   Registry. Do you see that?

10           A.   Yes. Well, I mean, you zoomed -- I saw  
11   it when you scrolled real quickly.

12           Q.    Okay.

13           MR. DEAN: So -- so let me object to  
14   the use of this document because it's not Bates  
15   stamped. I presume it's been produced somewhere  
16   and I recognize you said you got it from the public  
17   website, but I don't have that personal knowledge.  
18   Do you know -- it's not in -- it's not in the  
19   government's productions in this case, but with  
20   that said, I'm just making a point that I -- it's  
21   not a Bates-stamped document and it's not in the  
22   government's productions in this case.

23           MR. ANWAR: Okay. I'm not sure that  
24   it's not in the government's production. I suspect  
25   it likely is, but I pulled it from the website,

1 so --

2 MR. DEAN: No objection. Just making a  
3 note here if we do have it somewhere, I would like  
4 to substitute the Bates-stamped version at a later  
5 date. That's all I'm going at.

6 MR. ANWAR: Fair enough.

7 BY MR. ANWAR:

8 Q. And my first question to you about this  
9 document is have you seen it before?

10 A. No, I've never seen that.

11 Q. Okay. I would just -- do you know who,  
12 excuse me, General Allison Hickey is for the Under  
13 Secretary for Benefits Department of VA?

14 A. I've never heard the name.

15 Q. Do you know who Christopher Portier is?

16 A. Yeah, Dr. Portier was the ATSDR  
17 director maybe from 2010 through 2013.

18 Q. Okay. And I'm just going to quickly  
19 direct your attention to the first -- the first  
20 paragraph of the letter says, "the purpose of this  
21 letter is to provide the Department of Veterans  
22 Affairs preliminary information regarding our  
23 assessment of volatile organic compound exposures  
24 in drinking water distributed by Hadnot Point and  
25 Holcomb Boulevard water treatment plants at the

1 United -- at United States Marine Corps base Camp  
2 Lejeune."

3 Did I read that correctly?

4 A. Yes.

5 Q. Okay. And then the second paragraph  
6 states "the Agency for Toxic Substances and Disease  
7 Registry has conducted a series of environmental  
8 and epidemiological assessments of contaminated  
9 drinking water at USC -- USMC base Camp Lejeune.  
10 The foundation of our effort is based on modeling  
11 of contamination of the drinking water supply  
12 before 1987. The modeling was necessary because  
13 there was relatively few drinking water samples  
14 tested for VOCs during the period of contamination,  
15 none prior to 1982 when VOC contamination was first  
16 detected."

17 Did I read that correctly?

18 A. Yes.

19 Q. And is that consistent with your  
20 understanding?

21 A. Yes.

22 Q. Okay. We can read the next paragraph  
23 quickly. It says "ATSDR has focused on three  
24 different drinking water distribution systems;  
25 Tarawa Terrace, Hadnot Point, Holcomb Boulevard."

1 Did I read that correctly?

2 A. Yes, yes.

3 Q. And are those the three -- three  
4 systems that you modeled to estimate contaminant  
5 concentrations?

6 A. Yes, it is. Yes, they are.

7 Q. And then it goes on to say "we released  
8 the final Tarawa Terrace drinking water system  
9 report June 2007. That report concluded that  
10 former Marines and their families who lived in  
11 Tarawa Terrace family housing units during the  
12 period November 1957 through February 1987 received  
13 drinking water with the dry cleaning solvent PCE at  
14 levels above current EPA maximum contaminant level  
15 of five parts per billion. The executive summary  
16 of the report is located on our website." And then  
17 it sites to the modeling -- the executive summary  
18 for TTE. Did I read that correctly?

19 A. You read that correctly.

20 Q. Okay. And is that your understanding  
21 of the -- the water modeling related to Camp  
22 Lejeune -- or is it consistent with your  
23 understanding related to your water modeling  
24 efforts for Camp Lejeune?

25 A. With one caveat.

1 Q. Sure.

2 A. The executive summary was prepared for  
3 senate subcommittee members and their staffers and  
4 it is not written or presented in the highly  
5 technical matter that the summary of findings  
6 Chapter A and all the chapters of the Tarawa  
7 Terrace reports are. Those were released initially  
8 in July 2007.

9 Q. Okay. Did you write the executive  
10 summary?

11 A. Yes, I did.

12 Q. Okay. And did you write it knowing  
13 that it was going to be provided to senate  
14 committee members?

15 A. Yes.

16 Q. And I guess other Congress members?

17 A. I'm sorry. I didn't mean to interrupt.

18 Q. No, it's okay. It's very natural.

19 A. Yes, I specifically tailored it. And I  
20 don't mean this as a criticism, but it was using  
21 larger font type and...

22 Q. Yeah.

23 A. Okay.

24 Q. Making it easier to read and  
25 understand --

1 A. Yes.

2 Q. -- for people that are not modelers,  
3 right?

4 A. That is correct.

5 Q. Okay. Do you remember what senators or  
6 Congress members that the letter was sent to?

7 A. I would have to look up because I was  
8 subpoenaed to appear at that senate subcommittee  
9 hearing.

10 Q. Okay.

11 A. And there's obviously some record of  
12 who -- who -- who was there, but I don't recall  
13 offhand their specific names.

14 Q. The senate subcommittee hearing you're  
15 referring to, is that the one that took place in  
16 June of 2007?

17 A. Yes.

18 Q. Okay. And so this would've gone to the  
19 senators and Congress members that attended that  
20 hearing?

21 A. Yes, it was released whatever the date  
22 of the subcommittee hearing. I seem to think  
23 June 12th, but whatever. So it was typical that we  
24 did -- they would embargo a report and release it  
25 first to the parties that needed it, in this case,



1 the senators and their staffers, and then publicly  
2 release -- release it after that.

3 Q. Okay. And then it goes on to talk  
4 about the findings of the model, but I wanted to  
5 direct you to the last paragraph.

6 A. Okay.

7 Q. It says "I hope this information is  
8 useful as the Department of Veteran Affairs  
9 evaluates" --

10 A. Please scroll. Okay. Thank you.

11 Q. It says "I hope this information is  
12 useful as the Department of Veterans Affairs  
13 evaluates claims from veterans who served at USMC  
14 Camp Lejeune prior to the release of our full water  
15 modeling report in the spring. ATSDR is also on  
16 schedule to release its mortality study and birth  
17 defect and childhood cancer studies in spring 2013.  
18 While we finalize our water modeling and these epi  
19 studies, I will make certain that we brief the  
20 Department of Veterans Affairs staff on our  
21 findings. I would also like to recognize the  
22 efforts of your -- your department in supporting  
23 ATSDR's work and serving Camp Lejeune veterans and  
24 their families who were exposed to contaminated  
25 drinking water."

1 Did I read that correctly?

2 A. Yes, you did.

3 Q. Okay. Does that -- does that paragraph  
4 in particular reflect -- refresh your recollection  
5 at all as to sort of whether the water modeling  
6 efforts made by you and your team and the epi  
7 studies by ATSDR were used to help make policy  
8 decisions?

9 MR. DEAN: Object to the form of the  
10 question.

11 THE WITNESS: Again, I just was not  
12 involved in any of the legislation or  
13 legislative -- so I don't know what documents or  
14 analyses were provided before the official  
15 publication of our reports to congressional  
16 staffers, so I really could not answer. And then  
17 this talks about the veterans affairs, and I never  
18 was involved with anything to do with the veterans  
19 affairs from -- representing ATSDR. Other people  
20 were, but I was not.

21 BY MR. ANWAR:

22 Q. Okay. Understood. Do you know who was  
23 involved in those conversations?

24 A. I know at least Dr. Bove was at some  
25 point in time and probably Dr. Tom Sinks who was

1 deputy director of ATSDR and NCEH.

2 Q. Fair enough. Thank you.

3 I wanted to quickly turn back to -- and  
4 we can take this exhibit down.

5 We, a few moments ago, discussed the --  
6 the Janey Ensminger Act. Do you recall that?

7 A. Yes.

8 Q. And I believe you testified Janey  
9 Ensminger was the daughter of Jerry Ensminger,  
10 correct?

11 A. That's correct.

12 Q. And he was on the CAP, correct?

13 A. That is correct.

14 Q. Did you talk with Mr. Ensminger at all  
15 about the Janey Ensminger Act before it was passed  
16 in 2012?

17 A. No.

18 Q. You called Mr. Ensminger an activist.  
19 Why -- why is that?

20 A. Because he was very proactive because  
21 he saw the cause for the death of his daughter at  
22 age nine a result of the water contamination at  
23 Camp -- Camp Lejeune.

24 Q. And in what ways was he proactive?

25 A. I believe he helped in some ways to get

1 Congress to fund -- maybe to fund ATSDR to conduct  
2 the health studies, okay? And if we were in need  
3 some of information for the water modeling or for  
4 the epi studies in terms of base logistics and  
5 things like that, he was a good source of  
6 information.

7 Q. Is -- is that -- or would it be fair to  
8 characterize what Mr. Ensminger did as sort of  
9 lobbying Congress related to Camp Lejeune?

10 MR. DEAN: Object to the form of the  
11 question.

12 THE WITNESS: I really did not have any  
13 experience in lobbying Congress or what one does to  
14 lobby Congress, so I couldn't answer that.

15 BY MR. ANWAR:

16 Q. But you are -- I guess a moment ago you  
17 said he helped, I guess, working with Congress to  
18 get funding or --

19 A. Yeah, yes, he would -- let me back up.  
20 From ear to ear there may be questions as to how  
21 much funding was available or reduce the funding,  
22 the typical congressional budget activities. So he  
23 spoke up on behalf of ATSDR as to why we needed the  
24 full amount of our budget and why we needed it in a  
25 timely manner.

1 Q. Do you know if he was having  
2 conversations with Congress members or senators?

3 A. I don't know. I don't have any direct  
4 knowledge of that.

5 Q. Okay.

6 A. Could I ask for a bathroom break real  
7 quick?

8 MR. ANWAR: Sure. Let's take -- let's  
9 five.

10 THE WITNESS: Thank you.

11 THE VIDEOGRAPHER: Going off the  
12 record. The time is 1:29 p.m.

13 (A recess transpired.)

14 THE VIDEOGRAPHER: Going back on the  
15 record. The time is 1:35 p.m.

16 BY MR. ANWAR:

17 Q. We are back on the record from a short  
18 break. Mr. Maslia, are you okay to continue?

19 A. Yes, I am.

20 Q. Okay. Did you, during the break, speak  
21 about your substance of your testimony with your  
22 counsel?

23 A. No.

24 Q. Okay. I just wanted to put on the  
25 record the VA letter that I showed a moment ago as,

1 I believe, Exhibit 8 has been produced at CLJ,  
2 underscore, water modeling, underscore, 01-0000076  
3 158-59 and we are happy to substitute a copy of the  
4 Bates-stamped version of that as the exhibit.

5 So I would like to show you now what  
6 had been previously marked as Exhibit 6, but we  
7 kind of went out of order, so this is Exhibit 6,  
8 but the first time we'll be discussing this  
9 document.

10 MR. DEAN: Okay.

11 (DFT. EXHIBIT 6, ATSDR document  
12 entitled "Camp Lejeune, Summary of the Water  
13 Contamination Situation at Camp Lejeune", was  
14 marked for identification.)

15 BY MR. ANWAR:

16 Q. I'll represent to you that I'm showing  
17 you a water modeling summary from ATSDR's website  
18 entitled "summary of water contamination situation  
19 at Camp Lejeune." Did I read that correctly?

20 A. That is correct.

21 Q. Okay. And are you familiar with this  
22 page?

23 A. No, I'm not. It must be a newer page  
24 because when I was at ATSDR they never used scan  
25 codes, QR codes.

1 Q. Okay. Do you know if you were involved  
2 in providing information or populating the  
3 information on this page?

4 A. Yes, I was.

5 Q. Okay. And we can sort of scroll  
6 through it, at least up there and then your counsel  
7 can scroll through it for you, but I wanted to ask  
8 you to take a look at it, and based on your review  
9 of it, is the information contained within this  
10 website summary, the water modeling website  
11 summary, true and accurate to the best of your  
12 knowledge?

13 MR. DEAN: All right. So let's just  
14 start at the top and then you tell me to scroll.

15 THE WITNESS: Okay. Go ahead and  
16 scroll. Okay. Go ahead and scroll. Okay. Go  
17 ahead and scroll. Okay. I've read it.

18 BY MR. ANWAR:

19 Q. Based on your review of this page, is  
20 the information contained on the modeling summary  
21 true and accurate to the best of your knowledge?

22 A. Yes.

23 Q. And so I just want to now talk through  
24 it in a bit more detail and then we'll walk through  
25 it. According to the page it says there were eight

1 water distribution systems that supplied finished  
2 water to family housing and other facilities at  
3 Camp Lejeune, right?

4 A. That is correct.

5 Q. Then it lists eight water distribution  
6 systems. In the middle of the page it states  
7 "three water distribution plants, Hadnot Point,  
8 Tarawa Terrace, and Holcomb Boulevard have  
9 historically supplied finished water to the  
10 majority of family housing units at the base and  
11 were contaminated with volatile organic compounds,  
12 VOCs. Information about these three water  
13 treatment plants is provided below. Other  
14 non-based treatment plants were not contaminated."

15 Did I read that correctly?

16 A. Yes.

17 Q. Okay. So it lists the eight water  
18 distribution plants there, and I just wanted to  
19 confirm with you, based on your understanding, the  
20 water distribution system for Courthouse Bay was  
21 not contaminated with VOCs, right?

22 A. I would not be able to answer that  
23 without looking at documents because we really did  
24 not look at areas other than Tarawa Terrace, Hadnot  
25 Point, and Holcomb Boulevard, okay, which were the



1 family housing areas as the website points out. So  
2 we really did not do -- gather any information or  
3 data to be able to make that statement yes or no  
4 for any of the other areas.

5 Q. Is the reason that you didn't gather  
6 information related to those other areas -- and  
7 I'll just read them quickly. Courthouse Bay, Rifle  
8 Range, Onslow Beach, Montford Point/Camp Johnson,  
9 New River. Is the reason you didn't gather  
10 information related to those water distribution  
11 systems and did not model those water distribution  
12 systems because you're not aware or you have no  
13 reason to believe that they were contaminated?

14 MR. DEAN: Object to the form of the  
15 question.

16 THE WITNESS: No, that's not the  
17 reason.

18 BY MR. ANWAR:

19 Q. Okay. Tell me the reason.

20 A. The reason why Congress funded ATSDR  
21 through the Department of Navy to analyze family  
22 housing areas, and that's the three that we have  
23 previously mentioned here, those are not family  
24 housing areas. And when we went on base in  
25 July 2003 and toured around, we -- I, in fact,

1 mentioned to my points of contact, I said, well, if  
2 we're going to do water modeling on those three  
3 areas, we can just as easily do it on the whole  
4 base, and I was told that that was not going to  
5 happen.

6 Q. Okay. Would it be fair to say, then,  
7 as it relates to the water modeling efforts that  
8 you performed, the water modeling does not reach  
9 any conclusions about water contamination -- VOC  
10 contamination, water contamination, at these other  
11 water distribution systems, Rifle Range, Courthouse  
12 Bays -- Courthouse Bay, Onslow Beach, Montford  
13 Point/Camp Johnson and New River in the air  
14 station?

15 A. Just roll that back right there. Okay.  
16 One thing I did notice, based on our analysis, we  
17 did look at Montford Point and Camp Johnson because  
18 it was connected to Tarawa Terrace through a  
19 pipeline.

20 Q. And --

21 A. And -- well, that's what -- I just want  
22 to correct the record for that.

23 Q. Did you make any determination about  
24 whether Montford Point/Camp Johnson was providing  
25 water to Tarawa Terrace or Tarawa Terrace was

1 providing water to Camp Johnson?

2 A. There's -- that's been a subject of  
3 controversy, I will say, because there's some  
4 people who believe, based on certain documents,  
5 that Tarawa Terrace, which was contaminated,  
6 provided drinking water to Montford Point and Camp  
7 Johnson. Though all the investigation that we did  
8 and their documents that show that Tarawa Terrace  
9 was so short on water that Camp Johnson provided  
10 water to Tarawa Terrace.

11 Q. That's what -- based on your  
12 investigation --

13 A. Right.

14 Q. -- you believe Camp Johnson provided  
15 water to Tarawa Terrace?

16 A. Yes, yes, when needed. When needed by  
17 Tarawa Terrace.

18 Q. When needed.

19 A. Yes.

20 Q. Okay. And your water model -- the  
21 water modeling efforts related to Camp Lejeune  
22 didn't examine Courthouse Bay, correct?

23 A. That is correct.

24 Q. And the water modeling efforts related  
25 to Camp Lejeune didn't examine the Rifle Range,

1 correct?

2 A. That is correct.

3 Q. The water modeling efforts related to  
4 Camp Lejeune didn't examine Onslow Beach, correct?

5 A. That is correct.

6 Q. The water modeling efforts that you --  
7 you landed on related to Camp Lejeune didn't  
8 examine the Montford Point/Camp Johnson's water  
9 distribution, correct?

10 A. Say that again. Sorry. I didn't  
11 understand.

12 Q. Okay. Let me -- you did not -- the  
13 water modeling efforts that you and your team  
14 performed related to Camp Lejeune do not show that  
15 Montford Point/Camp Johnson's water distribution  
16 system were -- was contaminated or affected by  
17 VOCs?

18 MR. DEAN: Object to the form of the  
19 question.

20 THE WITNESS: We investigated Camp  
21 Johnson/Montford Point from a water distribution  
22 side because they had a pipeline connecting that  
23 was Tarawa Terrace. So to understand the  
24 operations at Tarawa Terrace, we had to instrument  
25 certain pertinences at Camp Johnson and Montford

1 Point.

2 BY MR. ANWAR:

3 Q. Okay. And I think earlier you stated  
4 based on your investigation you believe that Camp  
5 Johnson provided water to Tarawa Terrace and not  
6 the other way around, correct?

7 A. That is correct.

8 Q. Okay. And do you, as you sit here  
9 today, have any reason to believe that the water  
10 distribution system at -- or do you have any  
11 evidence that the water distribution system at Camp  
12 Johnson was affected by VOCs or contaminated from  
13 '53 -- 1953 to 1987?

14 MR. DEAN: Object to the form.

15 THE WITNESS: No, I do not.

16 BY MR. ANWAR:

17 Q. Okay. And what was it about your  
18 investigation that led you to the conclusion that  
19 Camp Johnson was providing water to Tarawa Terrace?

20 A. We looked at the present day, meaning  
21 2004 water distribution system because that's when  
22 we came on base, okay? Initially said we -- they  
23 had -- because the Marine Corps and most of the  
24 military bases do not meter their water. So we had  
25 to find out how much water was flowing through the

1 system, so we had to instrument the distribution  
2 system. And one of the controlling tanks was over  
3 at Montford Point/Camp Johnson for Holcomb -- by  
4 2004 it was Holcomb Boulevard that it was  
5 controlling for.

6 Q. Okay.

7 A. So we would have to -- we did, in fact,  
8 instrument a tank, a controlling tank, there based  
9 on the water level at Camp Johnson and Montford  
10 Point, that's when the pumps at either Tarawa  
11 Terrace or Holcomb Boulevard would come on.

12 Q. Okay. And the -- your and your team's  
13 efforts related to Camp Lejeune water modeling, the  
14 water modeling does not show or does not examine  
15 New River Air Station, correct?

16 A. That is correct.

17 Q. The water modeling also does not  
18 examine Camp Geiger, right?

19 A. Is that correct.

20 Q. Do you have any reason or evidence to  
21 believe that Camp Geiger was impacted by VOCs or  
22 water contamination?

23 A. We just never looked at it, so I  
24 couldn't say. I did not review any -- any data.

25 Q. Okay.

1           A.     Okay?  So I could not say whether it  
2     was contaminated or not.

3           Q.     I want to turn back quickly to the  
4     Montford Point/Camp Johnson issue.  And I will show  
5     you what we'll upload -- what we're marking as  
6     Exhibit 9.

7                     (DFT. EXHIBIT 9, e-mail correspondence  
8     Bates-stamped CL\_MASLIA\_0000000817 and 818, was  
9     marked for identification.)

10           MR. DEAN:  So for the record, just to  
11     clear this up while he's bringing that up, Exhibit  
12     No. 8 that you marked, which was that ATSDR  
13     un-Bates-stamped document.

14           MR. ANWAR:  Yeah.

15           MR. DEAN:  For the record is CLJA,  
16     underscore, VA, underscore, RFP, underscore, fourth  
17     set underscore, 4109.  And I'd ask that we replace  
18     and use that version for his depo.

19           MR. ANWAR:  Okay.  We'll take a look at  
20     a break and we can -- assuming it's the same thing,  
21     that shouldn't be an issue.

22           MR. DEAN:  Okay.

23           MR. ANWAR:  Is the exhibit up?  Okay.  
24     If you'll go ahead and display it, please.

25     BY MR. ANWAR:

1 Q. Okay. We are pulling up what has been  
2 marked as Exhibit 9 or will be marked as Exhibit 9.

3 MR. ANWAR: And I will just note for  
4 the record before we start talking about this  
5 document that we -- we -- this -- so this was  
6 produced to us in response to the subpoena issued  
7 to Mr. Maslia, and we provided notice to the  
8 Plaintiffs Leadership Group who did not object to  
9 us holding onto the document or seek to --

10 MR. DEAN: I agree.

11 BY MR. ANWAR:

12 Q. Okay. So --

13 MR. DEAN: And for the record, the  
14 reason I told you I provided it to you -- because  
15 this is an e-mail from Jerry Ensminger to  
16 Mr. Maslia during his consulting with us. He then  
17 forwarded it to me, so I had the communication.  
18 Therefore, I felt the need and obligation to  
19 produce it to you.

20 MR. ANWAR: Okay.

21 BY MR. ANWAR:

22 Q. So let's scroll down to the bottom of  
23 the e-mail.

24 A. Okay.

25 MR. DEAN: Oh, the bottom one?



1                   MR. ANWAR: Yeah, the one from  
2 Mr. Ensminger.

3 BY MR. ANWAR:

4                   Q. So it looks like the chain starts --  
5 the first e-mail on the chain is dated April 29,  
6 2024, and it is an e-mail from Jerry Ensminger,  
7 Mr. Ensminger, to you, Mr. Maslia.

8                   A. Right.

9                   Q. Is that correct?

10                  A. Yes, that's correct.

11                  Q. Okay. And from my review of it and  
12 just from the subject it says "I am sharing CLW1191  
13 with you" and then he provides a link to, I think,  
14 the document; is that right?

15                  A. Hold on. I'm not seeing -- i am  
16 sharing --

17                   MR. DEAN: That's in the subject line.

18                   THE WITNESS: Oh, I'm sorry. Okay.  
19 Yes, yes, that is correct.

20 BY MR. ANWAR:

21                  Q. And to the best of your recollection,  
22 is that what the link was, the link to that  
23 document?

24                  A. It was a link to a CLW Camp Lejeune  
25 water document.

1 Q. Okay. And do you know why he was  
2 sending that document to you?

3 A. I guess he -- my understanding is that  
4 there were individuals who believed Tarawa Terrace,  
5 because it was contaminated with contaminated  
6 drinking water and contaminated wells, was -- was  
7 supplying water to Camp Johnson and Montford Point.

8 Q. Okay. And so that's what he -- was  
9 being sent to you to look at that question?

10 A. To look at that document. He felt that  
11 that document proved their point.

12 Q. Okay. Do you recall what that document  
13 is, CLW1191?

14 A. Yes, it's a document that describes --  
15 if you could scroll down to the top part -- scroll  
16 up to the top part of the letter, that in the  
17 document it describes the pipeline going -- there's  
18 a pipeline going from Tarawa Terrace to Montford  
19 Point/Camp Johnson and that a Tarawa Terrace was --  
20 and the capacities of how much each system in terms  
21 of million of gallons per day were producing or  
22 needed, and that Tarawa Terrace was substantially  
23 short on water.

24 Q. Okay. And so I'm just going to read  
25 the document. It says at the top of -- so the top

1 of the chain is dated April 30th, 2014 and it's  
2 from you, Mr. Maslia, to Mr. Dean, counsel, and --  
3 is that right?

4 A. That -- yes. And somebody from the  
5 outside would contact me about work that was  
6 consulting on, then I would contact counsel to see  
7 if they wanted me to respond or they should respond  
8 or...

9 Q. Understood. And so your e-mail to  
10 Mr. Dean states "received from Jerry Ensminger.  
11 Have not responded to his e-mail. I am aware of  
12 the CLW1191 document. We have always said there is  
13 a pipeline connecting Tarawa Terrace and Camp  
14 Johnson. It is shown in Figure A-4 and Plate 1 of  
15 the Tarawa Terrace Chapter A report."

16 Did I read that correctly?

17 A. That is correct.

18 Q. Okay. And then the next paragraph  
19 states "the issue is did Tarawa Terrace provide  
20 drinking water to Camp Johnson or did Camp Johnson  
21 provide drinking water to Tarawa Terrace?"

22 Did I read that correctly?

23 A. Yes.

24 Q. Okay. And the last paragraph states  
25 "the answer is Tarawa Terrace was very short on

1 drinking water, especially in the summer as  
2 indicated in CLW1191, so Camp Johnson provided  
3 uncontaminated drinking water to Tarawa Terrace.  
4 Camp Johnson is at a higher elevation than Tarawa  
5 Terrace, so that a pump would need -- would be  
6 needed for Tarawa Terrace to provide water to Camp  
7 Johnson, which did not exist. Additionally, the  
8 controlling tank for Tarawa Terrace's tank SM-63 --  
9 623, excuse me, an elevated storage tank. Thus,  
10 based on the water demand and water level in the  
11 elevated tank, Camp Johnson would provide  
12 uncontaminated drinking water to Tarawa Terrace."

13 Does I read that correctly?

14 A. Yes.

15 Q. And is that still your conclusion  
16 today?

17 A. Yes, it is.

18 Q. Okay. We can remove that exhibit and  
19 go back to Exhibit 6. Okay. Do you have that  
20 exhibit in front of you?

21 A. I think we need to scroll up.

22 MR. DEAN: I'm sorry. It's at 6 again?

23 THE WITNESS: Yeah, right there. Okay.

24 BY MR. ANWAR:

25 Q. And so looking at Exhibit 6 again, only

1 the water distribution systems at Tarawa Terrace,  
2 Hadnot Point and Holcomb Boulevard were affected  
3 with contaminated water, right?

4 MR. DEAN: Object to the form of the  
5 question.

6 THE WITNESS: The three -- the three  
7 that you mentioned were contaminated with volatile  
8 organic compounds and BTEX compounds. Again, the  
9 others we did not specifically look at. That would  
10 be, I think, incorrect to make a determination as  
11 to whether they were contaminated or not  
12 contaminated.

13 BY MR. ANWAR:

14 Q. In the middle of the page, that middle  
15 paragraph that we went to, it says "information  
16 about these three water treatment plans is provided  
17 below. Other on-base treatment plants were not  
18 contaminated."

19 Would you -- would you agree with that  
20 statement, "other on-base treatment plants were not  
21 contaminated?"

22 A. If that's the agency's position, then I  
23 would agree with that.

24 Q. Okay. As you sit here today, you have  
25 no reason to dispute that statement, which is on

1 ATSDR's website?

2 A. No.

3 MR. DEAN: Object to the form of the  
4 question.

5 BY MR. ANWAR:

6 Q. Was that a "no"?

7 A. That was I have no reason to doubt this  
8 -- the text on the web -- webpage.

9 Q. Great. So with respect to Tarawa  
10 Terrace, Hadnot Point, and Holcomb Boulevard, what  
11 were the VOCs and contaminants at -- or chemicals  
12 at issue?

13 A. At Tarawa Terrace the primary source  
14 contaminant was tetrachloroethylene or perc or  
15 perchloroethylene, which is a dry cleaning and the  
16 degradation products from that. At Hadnot Point  
17 and Holcomb Boulevard, they had a number of source  
18 contaminants. Again, you had perchloroethylene,  
19 PCE. They had an on-base dry cleaner. You also  
20 had TCE or tetrachloroethylene, and you also had  
21 BTEX products.

22 Q. Which is benzene?

23 A. Benzene, toluene.

24 And then at Holcomb Boulevard they had  
25 intermittent contamination because of opening a

1 pump in the Marston pump 742 and Marston Pavilion  
2 valve to provide Hadnot Point water to Holcomb  
3 Boulevard on an intermittent basis.

4 Q. Okay. And I just wanted to quickly  
5 just walk through each of the -- the treatment  
6 systems with respect to -- and starting with Tarawa  
7 Terrace, since I think your report for Tarawa  
8 Terrace came first. It says here "began operation  
9 in 1952"; is that right?

10 A. Yeah.

11 Q. Okay. And then it says -- and when it  
12 says "began operation", is it referring to the  
13 water distribution system for Tarawa Terrace?

14 A. That would be our understanding.

15 Q. Okay. And then it says "the Tarawa  
16 Terrace water distribution system was shut down in  
17 March of 1970 -- or 1987"; is that right?

18 A. That's correct.

19 Q. And that's your understanding as well,  
20 right?

21 A. Yes.

22 Q. Okay. And it says "the Tarawa Terrace  
23 water distribution systems" --

24 A. Can you scroll up a little? That's  
25 good. Okay.

1           Q.    It says "areas served for the Tarawa  
2 Terrace water distribution system, TT, family  
3 housing, Knox Trailer Park; is that right?

4           A.    That's correct.

5           Q.    Okay. And is that your understanding  
6 as well?

7           A.    That's my understanding as well.

8           Q.    Are there any other areas within Tarawa  
9 Terrace that you -- that are -- you're aware of  
10 that were impacted by the water distribution  
11 systems in Tarawa Terrace?

12          A.    No, I'm not.

13          Q.    Okay. You mentioned that PCE was the  
14 main contaminant at Tarawa Terrace, right?

15          A.    That is correct.

16          Q.    And then you mentioned degradation  
17 products of PCE, correct?

18          A.    That's correct.

19          Q.    It says in -- on the page, the source  
20 of contamination was ABC One Cleaners, an off-base  
21 dry cleaning firm; is that right?

22          A.    That is correct.

23          Q.    All right. And the degradation  
24 products for PCE with respect to Tarawa Terrace  
25 that I, at least, saw that the model -- your



1 modeling for Tarawa Terrace looked at were DEC, TCE  
2 and vinyl chloride?

3 A. That is correct.

4 Q. And those three particular chemicals,  
5 again, were only as degradation products of PCE,  
6 correct?

7 A. Yes, that's correct.

8 Q. Okay. ATSDR's water modeling for  
9 Tarawa Terrace didn't model benzene concentrations  
10 for Tarawa Terrace, right?

11 A. That is correct. Although we  
12 documented benzene contamination at one or two  
13 locations for data -- data discovery purposes and  
14 that's included in some of the reports.

15 Q. If I understand your prior deposition  
16 testimony correctly, you-all didn't model or look  
17 at benzene in the Tarawa Terrace model because any  
18 benzene samples that were discovered didn't --  
19 weren't high enough to cause you any concern,  
20 correct?

21 A. I recall we didn't model benzene  
22 because we could not identify a source for benzene  
23 even though there were water samples that showed  
24 hits of benzene. I don't recall specifically  
25 their -- their levels. I do recall them being low,

1 but whether they were above or below an MCL just  
2 without looking at our reports, I could not say,  
3 but the primary reason not modeling it was we could  
4 not identify the source of that benzene.

5 Q. Okay. And your -- and I'm just going  
6 to, like, read it verbatim. Your prior deposition  
7 testimony on this particular topic you state,  
8 quote, after reviewing the data and the analyses  
9 that we did based on the underground storage tanks,  
10 we did not -- number one, we thought number one  
11 that whatever gasoline -- because at Tarawa Terrace  
12 there were gasoline holding tanks leaks was small  
13 enough in nature that it did not impact any of the  
14 supply wells, so there was no major source of  
15 benzene and, in fact, the results there are, I  
16 think, two or three samples at the water treatment  
17 plant that are, say, one to four, maybe there's a  
18 seven micrograms per liter were substantially low  
19 that it did not, again, indicate there was a source  
20 at Tarawa Terrace for benzene contamination of  
21 groundwater supplies that would impact down --  
22 impact drinking water.

23 MR. DEAN: Object to the form. If you  
24 have -- I can get me a copy of it, but I believe  
25 the witness is entitled to review the transcript.

1 MR. ANWAR: We can pull it back up.  
2 It's marked as an exhibit.

3 BY MR. ANWAR:

4 Q. But my -- just -- and I'll pull it up  
5 here in a second for you to take a look. Based on  
6 having just read your -- your deposition testimony  
7 there, is that still your understanding today?

8 MR. DEAN: So --

9 THE WITNESS: Let's just see the  
10 deposition.

11 MR. DEAN: I believe he needs to have  
12 an opportunity to take a look at the transcript.  
13 So if you give me just a second, I'll --

14 MR. ANWAR: We can pull it up. It's up  
15 now.

16 THE WITNESS: Okay.

17 MR. ANWAR: It's page 71.

18 MR. DEAN: What exhibit?

19 MR. ANWAR: It was Exhibit 3.

20 MR. DEAN: And what page are you on?

21 MR. ANWAR: Page 71.

22 MR. DEAN: I'll go to page 70. So let  
23 me just do this so you can scroll through it, okay?  
24 You might want to look a page or two before and a  
25 page or two after. He said it's on page -- what

1 did you say?

2 MR. ANWAR: Starts at 71 to -- that's  
3 his response. You can look -- is that -- yeah.

4 THE WITNESS: Can you scroll that one  
5 down to a page number so I can see the  
6 corresponding page number on my...

7 MR. DEAN: Go by the Bates-stamp  
8 number. He's at 9579.

9 THE WITNESS: Okay. Hold on. 9579.  
10 Oh, okay. I'm not even close to there. Okay.

11 BY MR. ANWAR:

12 Q. The deposition transcript page number  
13 on the right-hand corner is 71.

14 A. Yeah, I'm there. I'm at 65. Hold on.  
15 Okay. Here we go. Okay. Here we go.

16 Q. And starting at line seven.

17 A. Yeah. Okay. I'm reading. Okay.

18 Yes, I would -- I would still stand by  
19 my deposition.

20 Q. Okay. Fair enough. Okay. Let's go  
21 back to Exhibit 6, please. Thank you.

22 MR. DEAN: Okay.

23 BY MR. ANWAR:

24 Q. At the top of the page -- could we  
25 scroll up a little bit? Okay. So on Exhibit 6

1 it's says "the water distribution system at Hadnot  
2 Point began operation in 1942"; is that right?

3 A. Yes.

4 Q. Okay. And then it says "the areas  
5 served were Mainside barracks, Hospital Point  
6 family housing, and then family housing at Midway,  
7 Paradise Point, and Berkeley Manor until 1972"; is  
8 that right?

9 A. It also served the Navy -- the old Navy  
10 hospital that was located at Hospital Point, okay?

11 Q. Okay.

12 A. It was both family housing and the  
13 hospital.

14 Q. Understood. Is that reflected in your  
15 -- your reports?

16 A. It's on the maps that -- that we  
17 produced as part of the reports, yes.

18 Q. Okay. So Mainside barracks, Hospital  
19 Point family housing and the hospital, and then the  
20 family housing at Midway, Paradise Point, and  
21 Berkeley Manor until 1972; is that right?

22 A. I suppose I'm a little confused here  
23 because Hadnot Point is still operating.

24 Q. Are you --

25 A. It seems to indicate that family

1 housing at Midway until June 1972. They're either  
2 missing some text there or -- because I know Midway  
3 Park and -- okay, okay, okay, let me correct that.  
4 Yeah, 1972, that's when Holcomb Boulevard came  
5 online, so that's correct.

6 Q. That is correct?

7 A. Yes.

8 Q. Okay.

9 A. Sorry for the confusion.

10 Q. It's okay. And you said TCE was the  
11 main contaminant or the main VOC of concern at  
12 Hadnot Point, correct?

13 A. At Hadnot Point, yes.

14 Q. And then I think you also said you  
15 considered PCE and benzene, correct?

16 A. That is correct.

17 Q. Do you recall the sources of  
18 contamination at Hadnot Point?

19 A. There are multiple sources. For the  
20 TCE it would have been the landfill at Hadnot  
21 Point. For the PCE it would have also have been  
22 the landfill. They had an on-base dry cleaner, so  
23 there was some assumptions we had to make, but, in  
24 other words, PCE cannot be a degradation product of  
25 TCE, so it had to be a source, okay?

1 Q. Understood.

2 A. And then you would have the fuel farm,  
3 which -- where you would have the benzene  
4 contamination.

5 Q. So my understanding of the sources were  
6 underground leaking storage tanks and waste  
7 disposal sites; is that right?

8 A. That would have been -- the underground  
9 storage tanks would have primarily been for the  
10 fuel farm.

11 Q. Okay.

12 A. And then the landfill is, you know,  
13 where things -- industrial items and things like  
14 that would have been dumped into, so that would  
15 have been the source for the TCE and the PCE as  
16 well.

17 Q. In the three specific areas I have down  
18 and you mention in your prior deposition are the  
19 Hadnot Point industrial area, Hadnot Point  
20 landfill, and then HP-645 area, Building 645?

21 A. That's part of the -- well, what we  
22 were -- we did the analysis referring to the HP  
23 fuel farm and the industrial area.

24 Q. Okay.

25 A. So it was just a specific building in

1     that area.

2             Q.     So the -- okay. Understood. And so  
3     for -- I think I missed this, but it said further  
4     down for Tarawa Terrace -- I'm sorry that I'm  
5     jumping back to Tarawa Terrace.

6             A.     Okay.

7             Q.     It says "most contaminated wells were  
8     shut down in February 1985."

9             A.     That's correct.

10            Q.     Okay. Are you aware of any  
11     contaminated wells that weren't shut down?

12            A.     They were all shut down by -- during  
13     1987, but they'd shut down the -- I think three  
14     primary contaminated wells, TT-26, TT-23 and, I  
15     think, TT-25 in '85 and that's actually one of the  
16     graphs in our Chapter A report for Tarawa Terrace,  
17     will tell you when the wells shut down.

18            Q.     Based on your understanding, is there  
19     evidence or a factual basis for there being VOC  
20     contamination in the Tarawa Terrace water  
21     distribution system between February 1985 and  
22     December 1987? So like the --

23            A.     It would be a small amount, yes,  
24     because the -- besides those three big contaminated  
25     wells that were shut down, the other wells, which



1 were pulling contaminated groundwater up were not  
2 shut down.

3 Q. So is it your understanding that there  
4 was sort of remnant contaminated water from the  
5 three wells that were shut down from 87 -- '85 to  
6 '87?

7 A. No, I would describe it as the aquifer  
8 underlying Tarawa Terrace was contaminated, okay?  
9 And you shut down the three big supply wells going  
10 into the distribution system in '85, but the  
11 remaining wells were still putting water into the  
12 distribution system along with uncontaminated  
13 wells, but their concentrations were substantially  
14 lower than the three big ones that were shut down  
15 in '85, so it would have been diluted down.

16 Q. After those three wells -- the most  
17 contaminated wells were shut down from '85 to '87  
18 is -- is there sampling data related to -- do you  
19 recall the -- showing that the aquifer and other  
20 wells were still contaminated?

21 A. I would have to look back -- look  
22 through our reports.

23 Q. Okay. Would you defer to what your  
24 reports say about observed data?

25 A. Yes.

1 Q. Okay. And so jumping back to Hadnot  
2 Point, for Hadnot Point the most contaminated wells  
3 were shut down by February 1985 as well, correct?

4 A. I'm not seeing where you're reading  
5 that or...

6 Q. It's pages --

7 A. Oh, okay. Most contaminated wells were  
8 shut down. This is for Hadnot Point, yes.

9 Q. And for that period between  
10 February 1985 and December 1987, is your -- do you  
11 have any evidence or sort of factual basis for  
12 believing that there were other wells at Hadnot  
13 Point that were still contaminated?

14 A. There was contamination. We carried  
15 out the historical reconstruction simulations  
16 through 2008. So if you go to -- again, I'm going  
17 to refer to our reports because they have graphs in  
18 there showing the concentrations in the wells and  
19 the finished water past '85.

20 Q. Okay. Got it. And then Holcomb  
21 Boulevard it states "began operation in June 1972";  
22 is that right?

23 A. Yes, that -- that is our estimate.

24 Q. And it says "family housing at" -- or  
25 "areas served family housing at" --

1           A.    Let me just scroll, scroll up. Kevin,  
2   if you can scroll down to Holcomb Boulevard for me.  
3   There you go. Okay.

4           Q.    Under Holcomb Boulevard it says "areas  
5   served family housing at Midway Park, Paradise  
6   Point, Berkeley Manor, and Watkins Village and then  
7   served Tarawa Terrace family housing after  
8   March 1987"; is that right?

9           A.    That is correct.

10          Q.    It says "Holcomb Boulevard wells were  
11   generally not contaminated"; is that right?

12          A.    That is correct.

13          Q.    But the last two bullet points  
14   "contaminated water from Hadnot Point water  
15   treatment plant supplied the drinking water system  
16   when the Holcomb Boulevard plant was shut down  
17   during January 27 to February 7, 1985?"

18          A.    That is correct.

19          Q.    And then the last bullet point,  
20   "contaminated water from Hadnot Point water  
21   treatment plant was used intermittently to  
22   supplement the Holcomb Boulevard drinking water  
23   supply during dry spring and summer months when  
24   demand was high in 1972 and 1985?"

25          A.    Yes, that is correct.

1           Q.     Okay. We can go ahead and take that  
2 exhibit down.

3           MR. DEAN: Haroon, can we take a  
4 bathroom break?

5           MS. BAUGHMAN: We need to take  
6 another --

7           THE WITNESS: I've got a cold and --

8           MR. ANWAR: Oh, no worries.

9           THE VIDEOGRAPHER: Going off the  
10 record. The time is 2:17 p.m.

11           (A recess transpired.)

12           THE VIDEOGRAPHER: Going back on the  
13 record. The time is 2:20 p.m.

14 BY MR. ANWAR:

15           Q.     We are back on the record from a short  
16 break. Mr. Maslia, are you okay to continue?

17           A.     Yes, I am.

18           Q.     Okay. I'm going to quickly revisit  
19 Exhibit 6, which we just had finished discussing  
20 before the break and I wanted to clarify, I think  
21 you agreed with a question that I asked but I  
22 misspoke in my question. That last question, that  
23 last bullet point under Holcomb Boulevard says  
24 "contaminated water from Hadnot Point water  
25 treatment plant was used intermittently to

1 supplement the Holcomb Boulevard drinking water  
2 supply during dry spring and summer months when  
3 demand was high 1972 through 1970 -- or 1985?"

4 A. That is correct.

5 Q. Okay. And I think I accidentally said  
6 '72 and 1985 before and what I meant to say was '72  
7 through '85.

8 A. That is correct.

9 Q. Okay. And we had briefly had a  
10 discussion, I had asked you sort of the basis for  
11 why wells in Tarawa Terrace were still considered  
12 contaminated after the main wells were shut down in  
13 '85. And I think you mentioned sort of the aquifer  
14 and the other supply wells pulling from -- from  
15 that aquifer; is that right?

16 A. That is correct.

17 Q. Okay. Do you -- can you identify any  
18 specific wells, like other wells that were still  
19 contaminated?

20 A. I would have to look at our reports to  
21 tell you the well numbers.

22 Q. Okay. And we'll take a look at the  
23 reports. Is -- do you recall if -- do you recall  
24 if -- one second. Let me look at my outline.

25 Sorry. Just one second.

1           Do you recall if those -- if there was,  
2   in fact, observable data from '85 to '87 with  
3   respect to other wells in Tarawa Terrace or if that  
4   was based on model simulation?

5           A.    I would really have to look at the  
6   report.

7           Q.    Okay.

8           A.    That was the tail -- tail end of our  
9   simulation.  It's in the reports, though.  They're  
10  graphs of the wells.

11          Q.    Why don't we go ahead and mark exhibit  
12  -- or Chapter A to the Tarawa Terrace report as  
13  Exhibit 9.

14               MR. DEAN:  The summary?

15               MR. ANWAR:  Correct.

16               (DFT. EXHIBIT 10, document entitled  
17  "Analyses of Groundwater Flow, Contaminant Fate and  
18  Transport, and Distribution of Drinking Water at  
19  Tarawa Terrace and Vicinity, U.S. Marine Corps Base  
20  Camp Lejeune, North Carolina: Historical  
21  Reconstruction and Present-Day Conditions  
22  Chapter A: Summary of Findings", was marked for  
23  identification.)

24               MR. ANWAR:  And --

25               MS. BAUGHMAN:  Are you putting it up

1 or...

2 MR. ANWAR: Yeah.

3 MR. ANTONUCCI: Sorry about that.

4 MS. BAUGHMAN: Is it here as Exhibit 9?

5 MR. ANTONUCCI: It is Exhibit 10.

6 MR. ANWAR: Oh, I'm sorry. We're  
7 putting up the Tarawa Terrace, Chapter A, summary  
8 of findings as Exhibit 10. And for the record,  
9 Mr. Maslia is looking through Chapter A, summary of  
10 findings.

11 BY MR. ANWAR:

12 Q. Is there a particular page that you're  
13 looking at?

14 A. Yes, I'm looking at page A-39, Figure  
15 A-18.

16 Q. We're getting there.

17 A. That's -- yes, that's the graph I'm  
18 looking at.

19 Q. Okay. So from '85 -- February '85 to  
20 December '87, with respect to Tarawa Terrace, is  
21 there any observable data -- observed data of water  
22 contamination with respect to other wells at Tarawa  
23 Terrace?

24 A. Not -- not that I see on the graph and  
25 not that we published.

1           Q.    So would that have been, then, based on  
2   that statement that said -- suggested that other  
3   wells may have had some contamination remaining, is  
4   that based on the computer simulation?

5           A.    Yes, it is.

6           Q.    Okay.  Let's take that down for a  
7   moment.  We'll put it back up shortly.

8                        So I want to switch gears and now ask  
9   you specific questions about the modeling work that  
10  you performed.

11          A.    Sure.  Okay.

12          Q.    So we may jump around a bit, and I  
13  apologize.  And if you need to look at any of your  
14  reports, just let me know.

15          A.    Okay.

16          Q.    And we can mark them as an exhibit and  
17  walk through them together.

18          A.    Okay.

19          Q.    So we've been referring to water  
20  modeling and the water modeling efforts that you  
21  and your team at ATSDR performed related to Camp  
22  Lejeune.  But when we say "water modeling" are we  
23  really referring to groundwater modeling, fate and  
24  transport modeling, and water distribution  
25  modeling?



1           A.    It's a catchall phrase or a generalized  
2    characterization that we thought would enable the  
3    public to more generally understand or nontechnical  
4    people to understand what we were undertaking, but,  
5    yeah, that.

6           Q.    What is groundwater modeling?

7           A.    Groundwater modeling uses numerical  
8    methods or analytical methods to solve mathematical  
9    equations that describe the flow of groundwater  
10   from point A to point B.

11          Q.    What is fate and transport modeling?

12          A.    Fate and transport modeling is  
13   determining the fate and the movement of a  
14   contaminant or contaminants through a groundwater  
15   system.

16          Q.    And what is water distribution  
17   modeling?

18          A.    Water distribution system modeling is  
19   the movement of water through pressurized pipelines  
20   in the distribution of the water through the  
21   pipeline network.

22          Q.    We've talked about this a little  
23   already, but are you familiar with the term of a  
24   hindcast model?

25          A.    I'm familiar with the term.

1 Q. What is a hindcast model?

2 A. I disagree with the term.

3 Q. Okay. What is -- what is your  
4 understanding of the term?

5 A. My understanding is that you start,  
6 let's say, in 2024, go back to 2023, '22, '21 and  
7 that. Some people have equated that with  
8 historical reconstruction, but we have published in  
9 a peer review journal a discussion as to why that's  
10 not the same.

11 Q. Are hindcast models used to recreate  
12 past conditions based on limited or nonexistent  
13 data?

14 A. I really couldn't speak about  
15 hindcasting. I can speak about historical  
16 reconstruction.

17 Q. In your mind, how does a hindcast model  
18 differ from a historical reconstruction?

19 A. A historical reconstruction you might  
20 use present day information or historical  
21 information and then march forward in the time. So  
22 for example, at Tarawa Terrace we may know what the  
23 groundwater conditions were prior to wells being  
24 installed 1950 to '53. Then as the wells pump, we  
25 go forward in time until the wells were shut down.

1 So that's historical reconstruction.

2 Q. And for Camp -- for Tarawa Terrace, did  
3 you have -- you did not have sampling data back to  
4 1953, right?

5 A. Not contaminant data, but there are  
6 some water level data and based on geohydrologic  
7 investigations where -- when they were drilling the  
8 wells back then, they would take water samples and  
9 indicate where the groundwater level was, so you  
10 could have that -- those limited data. And because  
11 there was no pumping going on, you knew, for  
12 example, that New River was at zero elevation or at  
13 sea level, so you could, with reliability, simulate  
14 and estimate the predevelopment conditions,  
15 pre-pumping conditions, at Tarawa Terrace in the  
16 aquifer.

17 Q. And I think we discussed this earlier,  
18 but just to be -- to be clear, the first Tarawa  
19 Terrace model, the purpose was to sort of  
20 reconstruct estimated concentration -- monthly  
21 concentrations of primarily PCE, but also it's  
22 degradation products from roughly '53 to '87; is  
23 that right?

24 A. That is correct.

25 Q. Okay. And the second model, the Hadnot

1 Point/Holcomb Boulevard model, was it historical  
2 reconstruction to estimate monthly contaminant  
3 concentrations for Hadnot Point/Holcomb Boulevard  
4 for roughly 1953 to 1987; is that correct?

5 A. We actually carried out the Hadnot  
6 Point historical reconstruction through 2008  
7 because there was remediation data onsite at Camp  
8 Lejeune that helped us calibrate the models out to  
9 that, so that one was carried out to 2008.

10 Q. Okay. And that was -- Hadnot  
11 Point/Tarawa Terrace was primarily looking at TCE,  
12 PCE --

13 MS. BAUGHMAN: You said Tarawa Terrace.

14 MR. ANWAR: I'm sorry. Thank you for  
15 that correction.

16 BY MR. ANWAR:

17 Q. Hadnot Point/Holcomb Boulevard, that  
18 model was primarily looking at TCE, PCE, benzene --

19 A. Yes.

20 Q. -- and vinyl chloride; is that right?

21 A. That is correct.

22 Q. And the purpose of both of those models  
23 was to estimate monthly contaminant concentrations  
24 for use in epi studies?

25 A. Estimate mean monthly concentrations

1 for use by the health studies or the  
2 epidemiological studies.

3 Q. Okay. Why did you land on mean monthly  
4 concentrations?

5 A. Based on an analysis of the available  
6 data, groundwater data, geohydrologic data,  
7 contaminant data, we felt that -- and supply data  
8 -- that we could reliability obtain results on a  
9 monthly basis. And the assumption was that at the  
10 end of each month you would get a water level in  
11 the groundwater aquifers and that level we consider  
12 to be an average that would -- equally likely to  
13 occur on the last day of the month, the first day  
14 of the month, the middle of the month. So that's  
15 how we -- we -- and that was as refined as we could  
16 get, okay? So we could not -- because of the data  
17 of limitations, we did not feel justified  
18 scientifically to go any finer than a month period  
19 at a time.

20 Q. Did Dr. Bove or Perri Ruckart, did they  
21 request estimated mean monthly contaminant  
22 concentrations or that was -- was that the best  
23 that the model could provide?

24 A. My recollection is that they initially  
25 requested trimester data, but we told them that we

1 could provide mean monthly and they said then they  
2 would prefer to go with that because that would  
3 account for uncertainty for them.

4 Q. Okay. Do you have any understanding of  
5 what they meant when they said it would account for  
6 uncertainty for them?

7 A. That health studies in general have a  
8 large uncertainty associated with them because of a  
9 lot of unknowns. Specifically, for example,  
10 exactly how much water an individual digests, stuff  
11 like that. And so if you need trimester data, if  
12 you could get monthly data, then that can show you  
13 how it may vary through the trimester. And so we  
14 gave them -- provided more refinement than they  
15 initially requested.

16 Q. Okay. And I just wanted to make clear  
17 that the -- neither the Tarawa Terrace nor the  
18 Hadnot Point/Holcomb Boulevard models show or were  
19 intended to show actual exposure in individuals,  
20 correct?

21 A. The models were intended to show the  
22 mean monthly concentrations in the finished  
23 drinking water.

24 Q. Okay. And they don't show how much any  
25 individual person was exposed to, correct?

1 MR. DEAN: Object to the form of the  
2 question.

3 THE WITNESS: We did not look at  
4 populations or people in the water modeling phase  
5 of the project.

6 BY MR. ANWAR:

7 Q. Because it -- as far as I can tell, it  
8 doesn't take into account things like where people  
9 lived on base necessarily or how many showers they  
10 took or deployments, how much water they drank?

11 A. That's an exposure assessment and we  
12 were not tasked with conducting an exposure  
13 assessment.

14 Q. Okay. And that was kind of the point I  
15 was getting at. The water modeling was not an  
16 exposure assessment, correct?

17 A. That is correct.

18 Q. Were the estimated monthly contaminant  
19 concentrations for both of the models, were they  
20 intend to be used as quantitative or qualitative?

21 MR. DEAN: Object to the form of the  
22 question.

23 BY MR. ANWAR:

24 Q. And again, I'm not interested in --  
25 this can, you know, this carries on through the

1 entire deposition, I'm not interested in any  
2 discussions that you've had with counsel since  
3 you've been retained as a consultant.

4 A. I understand. Could you repeat the  
5 question again?

6 Q. Sure. Were the estimated monthly  
7 contaminant concentrations for both of the models  
8 intended to be used as quantitative or qualitative  
9 results?

10 MR. DEAN: Same objection.

11 THE WITNESS: We felt, from a water  
12 modeling standpoint, that they were of substantial  
13 accuracy, that they could be used quantitatively.

14 BY MR. ANWAR:

15 Q. And do you believe that to be true for  
16 the entire period from 1953 to 1987?

17 A. Yes.

18 Q. What -- were the two models, the one  
19 for Tarawa Terrace and the one for Hadnot  
20 Point/Holcomb Boulevard, were they peer reviewed?

21 A. Yes, they were.

22 Q. Who peer reviewed them?

23 A. We had another -- excuse me. We had a  
24 formal and informal peer review process. For,  
25 let's say, for Tarawa Terrace to start with, we



1 brought together a panel of national and  
2 international experts in March 2005 to evaluate the  
3 work that we had done to that point and provide us  
4 guidance going forward.

5 Then when using their suggestions or  
6 their recommendations modifying our approach, we  
7 then finished the Tarawa Terrace analyses in 2006,  
8 let's say, and so then the Office of Science at  
9 ATSDR would send them out to external peer review.

10 Okay. And the same thing for Hadnot  
11 Point, we had an expert panel in 2009, I think,  
12 and, again, based on feedback, I mean, they are, in  
13 essence, peer reviewers, but they were not blinded  
14 to the panel members, but then when the Office of  
15 Science sends it out, we are blinded to the name of  
16 the peer reviewers just like a scientific journal.

17 Q. Understood. So the -- you would  
18 consider the internal review to be the panels you  
19 discussed the modeling with?

20 A. In combination there was also an  
21 internal ATS -- or technical staff review.

22 Q. Do you know who on the technical staff  
23 reviewed the two models?

24 A. No, I do not.

25 Q. And you were blinded from the peer

1 review of any external review?

2 A. Other than responding to the reviews.

3 Q. What do you mean by responding to the  
4 reviews?

5 A. Well, once the Office of Science  
6 selected a set of peer reviewers, and there were a  
7 number of them because of the number of chapters,  
8 and people have different expertise, so there was  
9 -- they would review and then they would send back  
10 review comments to the Office of Science. They  
11 would forward us the review comments not knowing --  
12 without names on them, and then we would respond  
13 that we would accept or not accept their  
14 recommendations and have to explain why we either  
15 accepted or didn't accept the peer reviewers'  
16 recommendations. Similar process that if someone  
17 submits a manuscript to a peer review journal.

18 Q. So you don't -- if I'm understanding  
19 you correctly, because you were blinded, you don't  
20 know the identities or the names of the external  
21 peer reviewers?

22 A. I know some of the members as a pool  
23 because as with everything, the Office of Science  
24 may not have known specifically about groundwater  
25 modeling or fate and transport, so we provided them

1 a list, but who on that list they selected, I don't  
2 know.

3 Q. Oh, I see. Do you recall who was on --  
4 in the pool or on the list?

5 A. I recall some of them.

6 Q. Who do you recall?

7 A. Dr. Leonard Konikow of the U.S.  
8 Geological Survey. I believe -- I'm trying to  
9 think of some others. There's a list on my ATSDR  
10 files somewhere, the list of all the reviewers.  
11 For example, for Tarawa Terrace, I think Dr. Barry  
12 Johnson. He had retired from ATSDR.

13 Q. Okay.

14 A. So he was a reviewer on -- may have  
15 been reviewing, for example, public health or  
16 public health policy, not necessarily groundwater  
17 modeling. There were some other former U.S.  
18 Geological groundwater modelers that reviewed  
19 different aspects of the groundwater modeling for  
20 us.

21 MR. DEAN: Could we ask you to spell  
22 the first one he mentioned.

23 MR. ANWAR: Sure.

24 THE WITNESS: Dr. Leonard Konikow,  
25 K-O-N-I-K-O-W.

1 BY MR. ANWAR:

2 Q. Do you know if that list of peer  
3 reviewers, the pool, would -- would have likely  
4 been included in your EDRP files?

5 A. Yes.

6 Q. Okay.

7 A. For Hadnot Point, I definitely remember  
8 that. I don't know -- for Tarawa Terrace, I don't  
9 remember if I -- if it was as formalized as it was  
10 for Hadnot Point.

11 Q. Okay. So I'm going to ask you the same  
12 question about both models, but I'm going to start  
13 with Tarawa Terrace.

14 A. Okay.

15 Q. How much observed or real-world data  
16 was available upon which to base the Tarawa Terrace  
17 model?

18 A. It was -- could you be more specific as  
19 to the type of data?

20 Q. Say sampling data for measured PCE  
21 concentrations.

22 A. Okay. There were data from, I would  
23 say, the early 1980s through '85 or '87 for that.  
24 And, again, in a groundwater flow fate and  
25 transport model it's not just the observed data,

1 but you also need to include the pumping scheduling  
2 and the pumping operations as well as the  
3 hydrogeologic properties.

4 Q. With respect to the sampling data, my  
5 understanding is there was limited data from 1982  
6 and 1985. Does that sound right to you?

7 A. That is correct.

8 Q. And when I say limited, in your mind,  
9 how much data did you have, do you recall?

10 A. Well, there may have been several dozen  
11 data points. I would have to go to a specific  
12 table and look and tell you a number on that. I  
13 believe, for example, in the -- for the water --  
14 for the fate and transport modeling at Tarawa  
15 Terrace we may have had, like, 36 data points.

16 Q. Okay. Do you know if all of those data  
17 points were used for calibration?

18 A. Yes, they were all used for  
19 calibration.

20 Q. Okay. And we can look at a table. Of  
21 the 36 data points, do you know how many of them  
22 came from pre-1985 -- or pre-1982?

23 A. I would have to look at the table.

24 Q. Okay. Is there a table in Chapter A  
25 that you could look at?

1           A.    Let me see here.  For example, in Table  
2   A-10, which is on page A-28.

3           Q.    Let's pull that up.

4           A.    I'm sorry.  Let's go to the previous  
5   page, Table A-9 on page A-27.

6           Q.    Okay.

7           A.    Okay.  Are we there?  Yes.  Okay.  This  
8   is at supply wells and that's the list of data that  
9   we had going from '85 to '91.

10          Q.    Did you -- so for some of these supply  
11   wells there's an ND listed there.  What is ND?

12          A.    ND stands for non-detect.

13          Q.    And did you consider the -- the  
14   non-detect when calibrating the model?

15          A.    We used it as a comparison, okay?  In  
16   other words, the observed data are not put into the  
17   model to calibrate the model.  Rather you put in  
18   your source concentration.  You put in the  
19   operational schedule of the wells, and then the  
20   model comes out with -- it's simulated  
21   concentration since you compare those with what you  
22   have observed.

23                So we -- we considered the non-detects  
24   from the standpoint, for example, if it had a  
25   non-detect on April 9th, 1985 for supply well

1 TT-23, the detection limit is ten at that time.  
2 That was the best the technology could do. And  
3 we're simulating -- I'm sorry. Oh, these are --  
4 this is just the PCE concentrations. Yeah, this is  
5 just the observed data, okay? Okay. Okay. So  
6 yes, the answer is we did consider non-detects,  
7 okay --

8 Q. Okay.

9 A. -- because we knew the detection limit.

10 Q. Okay. And then now focusing on Hadnot  
11 Point/Holcomb Boulevard, do you recall how much  
12 observed real-world data was available upon which  
13 to base the Holcomb -- the Hadnot Point/Holcomb  
14 Boulevard model?

15 A. It would be a little bit more than at  
16 Tarawa Terrace because we took it out in 2008.

17 Q. Okay.

18 A. Okay. So we -- we did that because we  
19 had the 2008 data or remediation data from a  
20 consultant working on base.

21 Q. The -- I think we discussed earlier  
22 that the most contaminated wells were shut down in  
23 1985, correct?

24 A. That is correct.

25 Q. Do you recall how much data -- and when

1 I say data, sampling data or observed or real-world  
2 sampling data was available for Hadnot  
3 Point/Holcomb Boulevard model prior to 1985?

4 A. Not right off the top of my head. I  
5 would have to go through the report and -- and see.

6 Q. My -- and we can look through the  
7 report, too, and you're welcome to look through it  
8 and we can mark it, is that there was -- like  
9 Tarawa Terrace, there was only limited sampling  
10 data for measured TCE, PCE, DCE, vinyl chloride,  
11 and benzene concentrations at Hadnot Point between  
12 1982 and 1985?

13 A. I would agree with that.

14 Q. Okay. You would agree with that?

15 A. Yes.

16 Q. And I think maybe -- we can mark  
17 Chapter A for Hadnot Point as the next exhibit,  
18 which I think will be 11.

19 (DFT. EXHIBIT 11, ATSDR document  
20 entitled "Analyses and Historical Reconstruction of  
21 Groundwater Flow, Contaminant Fate and Transport,  
22 and Distribution of Drinking Water Within the  
23 Service Areas of the Hadnot Point and Holcomb  
24 Boulevard Water Treatment Plants and Vicinities,  
25 U.S. Marine Corps Base Camp Lejeune, North Carolina



1 Chapter A: Summary and Findings", Bates-stamped  
2 CLJA\_HEALTHEFFECTS0000221326 through 221535, was  
3 marked for identification.)

4 BY MR. ANWAR:

5 Q. And I think for Chapter A it might be  
6 A-62, Table A-18.

7 A. Which table number?

8 Q. A-18.

9 A. Okay. I'm there. Okay. Let's see.  
10 This is for the -- this is at the water treatment  
11 plant.

12 MS. BAUGHMAN: Did you upload this one  
13 yet?

14 MR. ANTONUCCI: It will be uploaded in  
15 about five seconds.

16 THE WITNESS: Okay.

17 MR. ANWAR: And we can wait for the  
18 exhibit to load.

19 MR. DEAN: If it's the one he's got in  
20 his hand, I'm fine to proceed.

21 MR. ANWAR: Okay.

22 THE WITNESS: Yeah, I've got A-18  
23 pulled up. I just wanted to make -- understand  
24 that was for the water treatment plant at Hadnot  
25 Point -- water treatment plant, not supply wells.

1 BY MR. ANWAR:

2 Q. Okay. Is there a table in here for the  
3 observed data for, I guess -- pulled for the --  
4 like the sampling data pulled from the source?

5 A. In the supply wells?

6 Q. Yeah.

7 A. I don't believe there is one specific  
8 here. Let me just -- they're -- they're graphs and  
9 I want to say Table A-13, contaminant, that's the  
10 sources, and then they are -- the following page,  
11 A-46, Figures A-18, there's some graphs there  
12 showing the observed and the contaminated. And I  
13 believe that in the chapter of supplement -- and  
14 Hadnot Point I went to supplements. I have to look  
15 up the supplement name, the letter designation.

16 Q. Okay. We can --

17 A. But in the various supplements that  
18 dealt strictly with the groundwater modeling and  
19 the fate and transport modeling at Hadnot Point,  
20 they would have tables of the observed data as  
21 well. The focus of the summary chapters that I put  
22 together to gather the information from the other  
23 technical chapters and then present it in terms of  
24 the -- what were the final mean monthly  
25 concentrations being delivered by the water

1 treatment plants and finished water.

2 Q. Got it. Thank you.

3 Just give me one second. I'm trying to  
4 find myself. I think on page -- I'll come back to  
5 that. So one of the labs where this -- I guess  
6 this sampling data came from was Grainger Labs; is  
7 that right?

8 A. That is correct, for Tarawa Terrace.

9 Q. For Tarawa Terrace.

10 A. In particular that's -- yes, that's...

11 Q. Okay. Did any sampling data come from  
12 Grainger Labs for Hadnot Point/Holcomb Boulevard?

13 A. I'll have to look at their letter  
14 again, okay? I definitely recall Tarawa Terrace.

15 Q. Was Grainger Labs accredited or  
16 certified to perform VOC testing, do you know?

17 A. I don't know the answer to that.

18 Q. If Grainger Labs lacked the  
19 certification necessary to perform VOC testing,  
20 would that impact the reliability of the sampling  
21 data from them?

22 MR. DEAN: Object to form.

23 THE WITNESS: I could not answer one  
24 way or the other.

25 BY MR. ANWAR:

1           Q.    If -- would it be fair to say if the  
2   sampling data turned out to be different, the model  
3   would turned out to have different results,  
4   potentially?

5                   MR. DEAN:   Same objection.   Assumes  
6   facts not in evidence.

7                   THE WITNESS:   Not necessarily because  
8   you don't put the sampling data into the model.  
9   Again, it's used for comparison purposes.   And  
10   water quality data typically are characterized by  
11   some substantial variations.

12   BY MR. ANWAR:

13           Q.    So the -- my understanding with respect  
14   to the reports is that the wells were assumed to  
15   operate continuously?

16           A.    No.

17           Q.    That's not right?

18           A.    That's not -- not correct.   We had  
19   operating schedules, most based on my calibrating  
20   the model and based on some other methods to  
21   determine which wells operated when.   So on a  
22   monthly basis they may have operated -- we assumed  
23   they operated for the entire month, in other words.  
24   But whether they operated for two months straight  
25   and then stopped for a month or a month straight,

1 it would depend on whether you're looking at Tarawa  
2 Terrace or Hadnot Point and Holcomb Boulevard.

3 Q. Did you have operating schedules for  
4 the entirety of the '53 to -- 1953 to 1987 time  
5 period?

6 A. No, we did not.

7 Q. And how did you determine what the, you  
8 know, whether a well was operating or not when you  
9 did not have data available to --

10 A. Well, we did have some water utility  
11 logbooks that mentioned when certain wells may have  
12 been turned off or turned on. And then we also had  
13 the well construction information, so we knew when  
14 the wells went in, what their capacities were, and  
15 we knew the volume of water that was required. And  
16 so we -- we then were able to synthesize the  
17 operational schedule of the wells.

18 Q. Okay. Let's take a look at page A-18.

19 A. For Hadnot Point or --

20 Q. For Tarawa Terrace.

21 A. A-18.

22 Q. Chapter A, page A-18 for Tarawa  
23 Terrace, which should be Exhibit 10.

24 A. A-18. Okay.

25 MR. DEAN: Oh, Exhibit 10?

1 THE WITNESS: Page A-18. Okay. I'm  
2 there.

3 BY MR. ANWAR:

4 Q. At the bottom of the -- sorry. I  
5 thought I was there myself. So in the left-hand  
6 side, last paragraph --

7 A. Right.

8 Q. -- there's a sentence that says "once a  
9 well was put in service."

10 A. Right.

11 Q. "Once a well was put in service it was  
12 assumed to operated continuously for modeling  
13 purposes until it was permanently taken offline,  
14 the exception being temporary shutdowns for  
15 long-term maintenance."

16 A. Right. Okay.

17 Q. What does that mean? We were --

18 A. That means in the groundwater model you  
19 would initiate the well pumping whenever the data  
20 indicated that it went online, and you would keep  
21 pumping it on a monthly basis unless the records  
22 indicate that it was shut down for maintenance or  
23 until it stopped operating completely.

24 Q. Would it impact the ultimate mean  
25 monthly concentration and finished water if you --

1 if you hadn't made this assumption?

2 A. It would have affected the volume of  
3 water. In other words, we knew how much water we  
4 needed on a monthly basis based on records provided  
5 to us by Camp Lejeune as well as the well  
6 characteristics. So if, in fact, for example, they  
7 said a certain well was not operating, we would try  
8 that in the model, and the if model corroborated  
9 that, that's great. If the model did not, we would  
10 have to operate the well. So that's the  
11 calibration process.

12 Q. Okay. We will get to that. Do you  
13 know what method Grainger Labs used to test for  
14 TTHM?

15 A. No, I do not.

16 Q. And when I say "TTHM" do you know what  
17 I'm referring to?

18 A. Yeah, total trihalomethanes.

19 Q. Okay. Could you take a look at page --  
20 still on Exhibit 10, Tarawa Terrace.

21 A. Okay. Okay.

22 Q. Chapter A, page A-25.

23 A. Okay. Yes.

24 Q. It's -- so in the middle of the page it  
25 says "a second reason for computing a selected

1 geometric bias" --

2 A. Yeah, I'm trying to see where -- is  
3 this the right-hand column or left-hand column?

4 Q. Sorry. Right-hand column, top  
5 paragraph. It is -- there is a section highlighted  
6 right there in the --

7 A. Hold on. Okay. Okay. I see "such  
8 greatly enhanced biodegradation would result in  
9 much lower PCE concentration" -- oh, "a second  
10 reason", yes, I'm there.

11 Q. Okay. It says "a second reason for  
12 computing a selected geometric bias and the  
13 omitting data from water supply well TT-23 is bias  
14 introduced into analytical results caused by  
15 incomplete or inadequate sampling methodology."

16 A. Right.

17 Q. What does that mean?

18 A. Well, there are different ways that  
19 they sampled both water quality and water level  
20 data. For example, with water level data you can  
21 use an air line, which is far less accurate, or you  
22 can use a tape measure and do that. And so the  
23 ability of the model to match observed data would  
24 be dependent on what sampling methodology was used  
25 and the accuracy and whatever error is associated



1 with that sampling methodology.

2 Q. Did the Tarawa Terrace model generate  
3 two geometric model biases?

4 A. I believe if we go over one more to  
5 page A-26, sample line -- row or calibration level  
6 three and four of calibration level three, you  
7 would see that there -- there was two geometric  
8 biases, 5.8 and 3.9, and I believe the footnote  
9 explains with and without TT-23.

10 Q. How does geometric model biases relate  
11 to the model's accuracy?

12 A. Okay. If you go -- let's go back to  
13 the previous page, okay, left-hand column, top  
14 part. A model bias is a numerical indication  
15 whether the model underpredicts, predicts exactly,  
16 or overpredicts, okay? So we take the simulated  
17 concentration and divide it by the observed  
18 concentration. If it's less than one, that means  
19 the model is underpredicting. If it's equal to  
20 one, there's an exact match. And if it's greater  
21 than one, that means the model is overpredicting  
22 based on the observed.

23 And because the distribution of that  
24 bias is -- is skewed -- it's skewed normally. In  
25 other words, it cannot be less than zero, okay, but

1 it can be much greater than one depending how poor  
2 of -- how much overprediction the model -- that's  
3 basically, like, a little normal distribution, so  
4 you want to use a geometric bias.

5 Q. And I think you --

6 A. Okay.

7 Q. For well TT-23 I think the -- there was  
8 a geometric model bias of 5.9 and 3.9. Does that  
9 mean both -- both are overpredictive?

10 A. Yes, yes.

11 Q. Okay.

12 A. One, I've referred to the following  
13 Table A-8. The geometric bias of 5.8 was including  
14 TT-23 and 3.9 was excluding TT-23.

15 Q. Would you agree that there was -- there  
16 were data limitations with respect to ATSDR's  
17 modeling of the mean monthly concentrations at Camp  
18 Lejeune because there was a small number of  
19 drinking water contaminant results from actual  
20 samples taken at the water treatment plant or the  
21 point of exposure?

22 MR. DEAN: Object to the form of the  
23 question.

24 THE WITNESS: There are always data  
25 limitations with any modeling analyses, especially

1 going back historically in time. That is one of  
2 the reasons why we went to the historical  
3 reconstruction process. If we could calibrate the  
4 models to the data that we had, then we would have  
5 confidence where we didn't have the data going  
6 backwards in time, which is the same thing as using  
7 a model in a predictive sense. For example, if you  
8 wanted to design a remediation operation, you don't  
9 have that data because you haven't started  
10 remediating. You collect what data you have and  
11 then you use the model to go forward in time.

12 Q. What are -- you mentioned there are  
13 always limitations. Are there limitations with  
14 respect to the Tarawa Terrace and the Hadnot  
15 Point/Holcomb Boulevard models?

16 A. Yes.

17 Q. What are those limitations?

18 A. It's the limited number of -- of data.  
19 It's specific water supply well operations. When I  
20 say specific, on a daily or hourly value.

21 Q. What does that say about the  
22 limitations as it relates to the results produced  
23 by the model?

24 A. Basically it tells you once you believe  
25 you have a calibrated model, there -- you need to

1 establish how reliable that is through some type of  
2 probabilistic uncertainty analysis. Because it  
3 would give you the range compared to where your  
4 data are of where your, say, reconstructed  
5 concentrations would be. And so you have limited  
6 data as we did and others do for this type of  
7 analysis. And by conducting a probabilistic  
8 uncertainty analysis it not only gives us, but when  
9 we present the results to the epidemiologist, it  
10 tells them what the range and the concentrations  
11 should be or could be.

12 Q. We'll talk a bit more about  
13 calibration, but do you believe you had calibrated  
14 models for both the Tarawa Terrace and Hadnot  
15 Point/Holcomb Boulevard models?

16 A. Yes, I do.

17 Q. What is your, like -- I guess, what is  
18 a basis for believing that each of the models was  
19 calibrated?

20 MR. DEAN: Object to the form of the  
21 question.

22 THE WITNESS: We -- we used accepted  
23 model calibration procedures as described in ASTM  
24 guidelines, described in American Waterworks  
25 Association handbook on model calibration, and

1 procedures established by the U.S. Geological  
2 Survey and we followed those. And for example, if  
3 you go to the Chapter A report, page A-24, I'll  
4 just hold it up here.

5 BY MR. ANWAR:

6 Q. Okay. That's fine.

7 A. You can see these scatter diagrams of  
8 graphs. That's one of the methods described in one  
9 of the ASTM documents that we referenced that they  
10 say you need to be able to produce and conduct to  
11 do a proper groundwater flow model calibration. So  
12 we followed the accepted modeling procedures, okay,  
13 and expressed our results both in terms of the mean  
14 monthly values as well as the uncertainty analysis,  
15 which, again, is part of a generally-accepted  
16 modeled calibration and fate and transport model  
17 simulation approach.

18 Q. Okay. We'll talk more about  
19 calibration here in a few minutes. I wanted to ask  
20 you a few other questions. In your prior  
21 deposition you referred to the model sort of -- and  
22 this would have been at the time that the Tarawa  
23 Terrace model had been completed.

24 A. Right.

25 Q. Novel -- you described it as novel

1 application, edge of the envelope in terms of what  
2 has been done. What did you mean by that?

3 MR. DEAN: What -- what -- hold on a  
4 second. Hold on. Can you tell me what page you're  
5 referring to?

6 MR. ANWAR: Yeah, page 45.

7 MR. DEAN: What's -- what's the exhibit  
8 number?

9 MR. ANWAR: It's 3.

10 MS. BAUGHMAN: This is the deposition?

11 MR. ANWAR: Yeah.

12 MS. BAUGHMAN: Can you show him -- let  
13 him see the testimony.

14 MR. DEAN: Hold on. Hold on. Hold on.  
15 What page are we on?

16 MR. ANWAR: I said 45.

17 MR. DEAN: 45. Sorry. Okay. It  
18 should be on the screen, page 45.

19 THE WITNESS: Okay.

20 MR. DEAN: What line and question?

21 MR. ANWAR: It's 45, nine through 46,  
22 14.

23 THE WITNESS: Line 14. Okay.

24 MR. DEAN: Hold on one second.

25 THE WITNESS: Okay. Those were not --

1     those were not my words.

2                 MR. DEAN:   That's what I was going to  
3     say.   I don't know what your question was, but your  
4     question --

5                 THE WITNESS:   Yes, those were not --  
6     that was --

7                 MR. DEAN:   Hold on.   Your question did  
8     not accurately depict what's in the transcript,  
9     which is why we wanted to see the transcript.

10                MR. ANWAR:   Page 46.   I believe his  
11     testimony is --

12                MR. DEAN:   You told me 45.

13                MR. ANWAR:   I said 45 to 46.

14                MR. DEAN:   Okay.

15                MR. ANWAR:   And it says "so from that  
16     standpoint that's probably, you know, edge of the  
17     envelope of what has been done."

18                MR. DEAN:   You're mischaracterizing his  
19     testimony, though, but go ahead.

20                THE WITNESS:   Can I read the -- okay.

21                MR. DEAN:   Here, take this so you can  
22     scroll look at 45 and 46.

23                THE WITNESS:   Oh, okay.

24                MR. DEAN:   So when you're finished  
25     reading 45 --

1 THE WITNESS: Yes.

2 MR. DEAN: -- just let him ask his  
3 questions again.

4 BY MR. ANWAR:

5 Q. Yeah. So you certainly referred, I  
6 think, to it as edge of the envelope.

7 MR. DEAN: So object to the form of the  
8 question. You say "it" --

9 BY MR. ANWAR:

10 Q. In terms of what has been done --

11 MR. DEAN: Again, object to the form of  
12 the question because you have to clarify what it is  
13 and what was being done being referred to, so --

14 MR. ANWAR: Look, I'm not going to  
15 argue with you, but the testimony reads "so from  
16 that standpoint that's probably, you know --

17 MR. DEAN: I agree with what the  
18 transcript says, but that's not what your initial  
19 question was when you first asked this and we asked  
20 for the transcript. So I'm just pointing out an  
21 objection to the form of the question because you  
22 keep saying "it" and neither one of us know what  
23 you're referring.

24 MR. ANWAR: And you can object to form,  
25 but I'm going to ask you to stop speaking -- make



1 speaking objections and waste my time.

2 MR. DEAN: I'm trying to give you --  
3 help you with your questions. That's all I'm  
4 doing.

5 BY MR. ANWAR:

6 Q. What did you mean when you were  
7 referring to edge of envelope in the context of  
8 that discussion?

9 A. I think at the time I was referring to  
10 being able to go backwards in time, reconstruct  
11 based on either available data in the 1980s or  
12 current day information. Many modeling  
13 remediation-type studies collect field data present  
14 day and then, of course, project forward in time,  
15 but this was a unique application of -- of going  
16 backwards in time.

17 Q. Okay. Thank you.

18 What was your role in selecting source  
19 locations and strength for the two models? And  
20 let's start with the Tarawa Terrace model.

21 A. My role?

22 Q. Yeah.

23 A. I deferred to the person conducting the  
24 modeling itself. In the case of Tarawa Terrace it  
25 would have been Mr. Robert Faye. I provided him

1 with documents that indicated where the sources  
2 were for Tarawa Terrace. That would have been ABC  
3 One-Hour Cleaners, which are -- which is based on  
4 the reports by Shiver 1985 out of North Carolina  
5 also west -- some Weston reports.

6 Q. Okay.

7 A. And -- and so -- but the actual  
8 quantitative determination of the strength of the  
9 source, the timing of it, that would be up to the  
10 person conducting the modeling.

11 Q. In this instance it was Robert Faye?

12 A. That is correct.

13 Q. Was that also true for the Hadnot  
14 Point/Holcomb Boulevard?

15 A. No, we had -- we had Mr. Rene  
16 Suarez-Soto and also a hydrologist from the U.S.  
17 Geological Survey, Elliott Jones. But again, that  
18 would have been with information I -- I provided  
19 them.

20 Q. Okay. And for the Hadnot Point/Holcomb  
21 Boulevard model, do you recall the type of  
22 information you provided to determine the source  
23 and the strength?

24 A. Basically the location, the type of  
25 contamination, and then the model calibration

1 process would help quantify, you know, how long the  
2 source, how deep the source, and things of that  
3 nature. They had information on the construction  
4 of the landfill or the depth of the landfill, so...

5 Q. How did you determine the source  
6 strength in both models?

7 A. Well, in Tarawa Terrace we used a  
8 technique that's in the literature because we could  
9 actually plot the PCE plume aerially and then we  
10 compute a weighed volume and then determine a  
11 minimum annual amount of PCE going into the  
12 groundwater system. And so we did it that -- that  
13 way, okay? And their computations are provided in  
14 the Chapter F report of Tarawa Terrace.

15 Q. Okay.

16 A. If -- for Hadnot Point we assumed a  
17 constant source and turned it on and turned it off  
18 depending -- and at depth there were multiple  
19 aquifer layers.

20 Q. What was the basis for the assumption  
21 of the constant source?

22 A. It was -- everything was dumped into a  
23 landfill, and we really did not have as specific  
24 information as we did at ABC One-Hour Cleaners.  
25 And so that's a standard modeling approach, is to

1     assume that the source -- the source is the same  
2     from one time step to the other unless you, for  
3     example, start remediating, then you would reduce  
4     the source strength.

5             Q.     Were model results for either of the  
6     models used to locate some of the sources?

7             A.     We had -- and this is, I think, in the  
8     Chapter A or Chapter C report. I'll have to find  
9     exactly where, but we had identified some sources  
10    that we called apparent sources, okay, and that's  
11    because of the model results indicated that there  
12    may be a source -- a source there, okay, a high  
13    concentration value. And let me see if I can see  
14    -- oh, and for Hadnot Point -- oh, no -- yeah,  
15    Hadnot Point, Chapter A-45 -- chapter -- page A-45,  
16    Table A-13, those are the documented sources right  
17    there.

18            Q.     Okay.

19            A.     And let me see if I could -- okay.  
20    Okay. If you go to Table A-7, let's start with  
21    that.

22            Q.     Okay.

23            A.     Okay.

24            Q.     This is Tarawa Terrace?

25            A.     No, this was Hadnot Point.

1 Q. Okay.

2 A. Tarawa Terrace was only one source and  
3 that was ABC One-Hour Cleaners.

4 Q. Understood. You're on page A-7?

5 A. Page A-26, Table A-7.

6 Q. Okay. I'm there with you.

7 A. Okay. You're with me. Do you see that  
8 last column, potential source locations? Because  
9 you had multiple buildings and multiple locations,  
10 we refer to them as potential because, you know, it  
11 would not necessarily be that every single building  
12 listed would have been a source, okay? As compared  
13 to, say, the landfill where we knew that was a  
14 source, okay, because it was, you know, a landfill,  
15 so stuff went into the landfill.

16 Q. And I'm sorry if I missed it. So the  
17 original question was were model results used to  
18 locate some of the sources. Is that a yes or --

19 A. Not model --

20 MR. DEAN: Object to the form of the  
21 question. You're asking him for an opinion.

22 MR. ANWAR: I'm asking for his opinion  
23 in his role developing the model.

24 THE WITNESS: Okay. I'm looking now  
25 and I think it was just on the initial

1     characterization that we referred to as potential  
2     source locations, in other words, okay? Then we  
3     would use the model or, as we were calibrating the  
4     model, we would determine from that list,  
5     exhaustive list, of potential sources which ones  
6     were actual sources. We did not identify any new  
7     area, in other words, that -- that we said, oh,  
8     this is contaminated and there's -- you don't have  
9     any information on this area.

10                 MR. ANWAR: Okay. Why don't we take a  
11     quick break?

12                 THE WITNESS: Okay.

13                 MR. ANWAR: Thank you.

14                 THE VIDEOGRAPHER: Going off the  
15     record. The time is 3:24 p.m.

16                 (A recess transpired.)

17                 THE VIDEOGRAPHER: Going back on the  
18     record. The time is 3:39 p.m.

19     BY MR. ANWAR:

20                 Q. We --

21                 A. Could I qualify some things that were  
22     said in the previous --

23                 Q. Sure. Let me just -- we're back on the  
24     record from a short break. Are you ready to  
25     continue, Mr. Maslia?

1 A. Yes.

2 Q. And did you speak with your counsel  
3 about your testimony during the -- during the  
4 break?

5 A. No, I did not.

6 Q. Okay. And it sounds like there's  
7 something you want to clarify. Go ahead.

8 A. Yes, clarify. When we're talking about  
9 the questions being asked about sources at Tarawa  
10 Terrace and then Hadnot Point, they're entirely two  
11 different approaches because at Tarawa Terrace  
12 there's only one identified source, ABC One-Hour  
13 Cleaners, okay? That was easy to identify and  
14 there was substantial more investigation done at --  
15 by EPA contractors at ABC, and so we did -- that's  
16 why we used one method for characterizing the  
17 source for the model at Tarawa Terrace.

18 At Hadnot Point, and I'll refer you to  
19 Table A-7 on page A-26.

20 Q. This is Hadnot Point?

21 A. Hadnot Point.

22 Q. What was the page again, I'm sorry?

23 A. A-26.

24 Q. Okay. I've got you.

25 A. Do you see that's -- that's the table

1 -- there are many, many buildings that a supply  
2 well could have been contaminated from. And then  
3 the following page on Table A-8 sort of boils that  
4 down to which -- which buildings were contaminated  
5 based on historical events. And so there are many,  
6 many more sources at Hadnot Point.

7 And then if you flip to page A-20.

8 Q. Okay.

9 A. That's Figure A-10. That's basically  
10 the landfill area. Yeah, that's it. You see there  
11 are many more source -- sources, source locations  
12 in there, so there was not a single source like  
13 there was at ABC One-Hour Cleaners. So we have to  
14 use a different modeling approach to characterize  
15 the sources in the model.

16 Q. Okay. Thank you for that  
17 clarification. I wanted to ask you, generally  
18 speaking, since the water modeling for both Tarawa  
19 Terrace and Hadnot Point/Holcomb Boulevard were  
20 used to support epi studies, when it came to  
21 assumptions that were used or, I guess, to some  
22 degree the uncertainty, did you -- your team err on  
23 the side of being conservative? And when I say  
24 conservative, I mean sort of health protective.

25 A. I would say we did not consider



1 health -- health criteria or health standards.  
2 What we considered were what were the maximum  
3 contaminant levels of certain contaminants, in  
4 other words. That's what our guidelines were. If  
5 it came to concentration data, just because we may  
6 have had an exceedingly high concentration data, we  
7 did not force the model to reproduce that high  
8 concentration data. We took an objective  
9 scientific approach that could be defended by the  
10 public -- by the reviewers, by the scientific  
11 community, as to the approach that we did for  
12 modeling.

13 Q. Okay. Would you agree that calibration  
14 is -- the intent of calibration is to measure model  
15 accuracy?

16 A. I would define -- or the intent of  
17 calibration is to test out and compare your model  
18 assumptions from geohydrologic to well operations  
19 to source to the available field data that you have  
20 and give you a sense of reliability.

21 Q. Would calibration include comparing  
22 observed data with simulated data to the extent  
23 those data points exist?

24 A. Yes.

25 Q. Okay.

1           A.     And then performing some statistics on  
2     that.

3           Q.     So I wanted to have you turn to --  
4     actually let's mark it as an exhibit. It is  
5     Chapter F for the Tarawa Terrace.

6           A.     For the Tarawa Terrace, Chapter F.  
7     Okay. It's over here.

8           MR. DEAN: Oh, yeah, that's right.

9           THE WITNESS: Okay.

10           (DFT. EXHIBIT 12, document entitled  
11     Analyses of Groundwater Flow, Contaminant Fate and  
12     Transport, and Distribution of Drinking Water at  
13     Tarawa Terrace and Vicinity, U.S. Marine Corps Base  
14     Camp Lejeune, North Carolina: Historical  
15     Reconstruction and Present-Day Conditions. Chapter  
16     F:Simulation of the Fate and Transport of  
17     Tetrachloroethylene (PCE), was marked for  
18     identification.)

19     BY MR. ANWAR:

20           Q.     Do you have Chapter F in front of you?  
21     Is it loaded? Let's go ahead and display that.  
22     Give me one second to get back to it.

23           Okay. So let's turn to page F-34.

24           A.     Okay. I'm there.

25           Q.     And we can actually start on page F-33.

1           A.     Okay.

2           Q.     And so on F-33 there's a Figure 12  
3           there that is a graph that I believe is intended to  
4           compare observed data versus simulated data. And  
5           there's only a couple of data points -- data points  
6           where the observed data and the simulated data  
7           actually line up with each other. And then let's  
8           go ahead and look at the next page.

9           A.     Okay.

10          Q.     There's Figures F-13, F-14, F-15, F-16.  
11          And you can see the simulated data, what the model  
12          came up with, and then you can see what the  
13          observed data is, and almost in every instance it's  
14          much lower than what the simulated data is. And I  
15          wanted to ask you, like, how do you -- how do you  
16          explain the -- like, I think you've said you  
17          believe the model was appropriately calibrated.  
18          Why do you believe it was appropriately calibrated  
19          when the observed data doesn't match the simulated  
20          data and the simulated data appears to overpredict  
21          by quite a bit?

22                   MR. DEAN: Object to the form of the  
23                   question.

24                   THE WITNESS: First, if you go back to  
25                   Figure F-12.

1 BY MR. ANWAR:

2 Q. Sure.

3 A. And I have not come across any studies  
4 where the -- they line up on the 45-degree line  
5 there, okay? They will either be above or below,  
6 okay? So the fact that a data -- a simulated  
7 versus observed does not line up on the line is not  
8 -- not an issue. And it does show that -- and we  
9 acknowledge that, in fact, the simulated data tends  
10 to be higher than the observed data, okay?

11 Q. So you would agree that the model --

12 A. And we said that, if you looked at our  
13 model bias calibrations that the bias was greater  
14 than one, so the model would overpredict slightly,  
15 okay?

16 Q. Okay.

17 A. But again, the other thing you need to  
18 remember is, you know, let's take Figure F-16,  
19 okay. Look at the data. You've got the data  
20 ranging from 1600 all the way down to maybe 100  
21 there where it says observed. And so, you know,  
22 the data are extremely variable as well. That's  
23 the observed -- that's the observed data. And so  
24 the model simulation sort of splits the difference.

25 Q. Well, with respect -- I think another

1 question that I have, with respect to the accuracy  
2 of the calibration or -- and so it sounds like you  
3 acknowledge that the model tends to overpredict; is  
4 that right?

5 A. It overpredicts, but not -- not in an  
6 unacceptable manner or unacceptable -- we actually  
7 conducted -- that would be a reason for conducting,  
8 say, an uncertainty analysis. So you could look at  
9 your confidence bands in -- in the model and see  
10 whether you're plus or minus an order of magnitude,  
11 half an order of magnitude, three orders of  
12 magnitude, whatever it would be. So in other  
13 words, we accepted the calibration, but then we  
14 also went to a further analysis to test our  
15 confidence in that calibration.

16 Q. For instance, if you look at Figure  
17 F-15, one of the things that I don't think I  
18 understand, you see the simulated value --

19 A. Right.

20 Q. -- and you see the observed on the zero  
21 axis for 1187?

22 A. Right.

23 Q. And then you see the observed going up?

24 A. Right.

25 Q. If I remember correctly, for Tarawa

1 Terrace, the wells were taken out of service in  
2 1985, and so the model should reflect the -- the  
3 estimated concentrations going down, but uniformly  
4 in all of these figures, for the most part, the --  
5 the concentrations continue to go up --

6 A. Right.

7 Q. -- even after the wells are taken out  
8 of service.

9 A. Right.

10 Q. Why is that?

11 A. Because -- and actually, let's see if  
12 it's in this report or the -- he may not have put  
13 -- I did it in -- yeah, in this report. If you --  
14 if you go forward to Figures F-18 through F-21 --  
15 actually, I'm sorry, yeah, through F-23, okay, flip  
16 up a couple of pages. I'm sorry. Keep going  
17 forward. Go to page -- this will be pages F-36  
18 through F-38. There you go. Okay. That's the  
19 aerial distribution of the plume, of the PCE plume,  
20 okay. That first one is from 1960.

21 And let's keep flipping forward. Keep  
22 going, keep going. Okay. The wells are pumping.  
23 Now the -- keep going. And then the wells are  
24 taken out, okay? Even though the wells -- we can  
25 stop right there. Even though the wells are taken

1 out, the aquifer is still contaminated, okay? So  
2 while you may not have a supply well that's pumping  
3 there, the aquifer is still contaminated and the  
4 contaminant is still moving through the aquifer.  
5 And so the results are reflecting that.

6 Q. Shouldn't --

7 A. Okay. Reflecting at the location  
8 where, for example, TT-25 used to be, they took it  
9 out. So in fact, there could be a higher or  
10 increasing as -- as the plume migrated from  
11 northeast to southwest because it would be  
12 migrating under natural groundwater flow once the  
13 wells were removed.

14 Q. Wouldn't it be fair -- so, you know, I  
15 understand your point that there may still be  
16 contaminants in the aquifer, but when the source is  
17 removed, shouldn't the simulation be showing --  
18 even if there's still contaminants in the aquifer,  
19 that the monthly concentration is sloping down?

20 MR. DEAN: Object to the form.

21 THE WITNESS: It would -- it would  
22 really depend on the location. In other words,  
23 the -- the contaminant migration migrates,  
24 especially once you remove all the wells, at a  
25 slower velocity than when the wells were pumping.

1 So you take the source out of the model and then  
2 the immediate vicinity of where the source was,  
3 that it should go down decrease.

4 But as the contaminant source migrates  
5 under the natural groundwater flow conditions now  
6 that you have no pumping, you will still get high  
7 hits of -- of PCE until it moves, you know,  
8 completely out into wherever it's going to move  
9 past Tarawa Terrace.

10 BY MR. ANWAR:

11 Q. You would agree that at least on  
12 Figures F-13, F-14, F-15, F-16 that the simulation  
13 doesn't match the observed data in most of the, you  
14 know, most of the observed points in relation to  
15 the simulated data? It's not even close.

16 MR. DEAN: Object to the form.

17 THE WITNESS: I would say the model  
18 overpredicts; however, again, what our objective  
19 was, was to present finished water concentrations,  
20 okay, not necessarily water supply well  
21 concentrations. So what you have to do is -- and  
22 that is why we went to a multiple-phase calibration  
23 is if we go back to the summary of findings in  
24 Chapter A for Tarawa Terrace, what will you note is  
25 that the -- let me just get this one. Hang on.



1 That's not it. I can't find it here. Maybe he put  
2 it in Chapter F. Hold on just a second.

3 Ah, there you go. I'm sorry. Chapter  
4 F, go to page F-43. Okay. That graph. I mean, if  
5 you want to blow that up you can. But that -- that  
6 is the finished water concentrations, and for the  
7 available data it is -- it is spot on.

8 BY MR. ANWAR:

9 Q. The way I'm reading Chapter F is if you  
10 look at January 1985, the commuted data appears to  
11 still be significantly higher than most of the  
12 observed data.

13 A. January '85? No, I see three or four  
14 data points at the top -- top there and that's  
15 where the simulated line is. And if you move over  
16 to January -- or to 19, say, '86 or '7, the very  
17 last line, you see the data are lining up with the  
18 simulated value.

19 Q. Okay. So I wanted to ask you, in terms  
20 that you mentioned that the model overpredicts,  
21 does it --

22 A. Fate and transport. Again, I think we  
23 need to distinguish because from the fate and  
24 transport model we used a simple mixing model to  
25 mix all the wells at the treatment plant, and then

1 without adjusting anything, we just compared it to  
2 the measured data at the water treatment plant and  
3 it fell right on as far as we were concerned.

4 Q. You use a mixing model for the water  
5 treatment plant, so if it overpredicts to the -- in  
6 the fate and transport model to the wastewater  
7 treatment plant, doesn't that necessarily result in  
8 higher concentrations at the water treatment plant?

9 A. No, because you've got multiple wells  
10 mixing in. Some are not contaminated, some are  
11 contaminated, and some are highly contaminated.

12 Q. But if you have multiple wells mixing  
13 in regardless and if it underpredicted, wouldn't  
14 that result in the numbers being lower?

15 A. All I can answer is we had this  
16 independent set of data, which were the finished  
17 water concentrations, okay, and as we went to our  
18 calibration process from steady state groundwater  
19 flow to transient to fate and transport and then  
20 did the mixing model, the simple mixing model, it  
21 ended up that we obtained what we felt were  
22 acceptable results because what we were to provide  
23 to the epidemiologist were finished water  
24 concentrations.

25 So if, in fact, we were way, you know,

1 way off, either overpredicting, underpredicting at  
2 the water treatment plant, then that would have  
3 been a concern, but, again, the fate and transport,  
4 while they don't match and they overpredict  
5 somewhat, we felt that through the use of a mixing  
6 model where you assumed instantaneous mixing --

7 Q. Okay.

8 A. So basically our -- our criteria for  
9 accepting or not was what was happening at the  
10 water treatment plant.

11 Q. Okay. I just want to ask you a couple  
12 more questions.

13 A. Sure.

14 Q. Specific questions about the model, and  
15 due to time and some other things I would like to  
16 cover --

17 A. Right.

18 Q. -- I'll try to get through this  
19 quickly.

20 A. Sure.

21 Q. First, I believe the Tarawa Terrace  
22 model assumes that the dry cleaner was  
23 contaminating the wells from 1953 -- that the  
24 contamination existed as of 1953. What's the basis  
25 for that assumption?

1           A.     Based on the deposition of Victor Melts  
2     who was the owner of ABC One-Hour Cleaners and  
3     based on the operational records that -- or it's in  
4     the deposition that he gave when he began  
5     operations. And knowing dry cleaners of that  
6     generation back then, he, in fact, said that he  
7     would take the waste, the sludge, PCE, and use it  
8     to -- put it outside, you know, where it was  
9     covering some ground or putting it in a drain field  
10    or whatever, so yes.

11           Q.     Another -- so if -- if it turned out  
12    that the dry cleaner started leaking -- or  
13    contaminants at a later period in time, would that  
14    impact the Tarawa Terrace model?

15           A.     It would impact the -- any -- any  
16    model, but, again, the information we received from  
17    the reports done at ABC One-Hour Cleaners told us  
18    when the dry cleaners started operating and so --  
19    which we believe to be in 1953.

20           Q.     Would you agree that -- so I believe  
21    you indicated you have reports that state that the  
22    dry cleaners started operating in 1953?

23           A.     Yes.

24           Q.     Do those reports state that the dry  
25    cleaner starting leaking PCE in 1953?

1           A.     Well, nobody knew it was leaking PCE  
2     because at the time there were -- the environmental  
3     laws weren't in place to say you had to do that,  
4     but based on the deposition of Victor Melts that is  
5     available to anyone, you know, his practices were  
6     to dump or place the waste PCE just outside the --  
7     on the grounds of the dry cleaner. That's  
8     described actually, I believe, in the Chapter E  
9     report of Tarawa Terrace in a lot more detail. So  
10    that's where we, you know, obtain the assumption  
11    that he started in 1953.

12           Q.     If no one knew for sure when the PCE  
13    started leaking -- or when ABC Cleaners starting  
14    leaking PCE, wouldn't you agree it's a conservative  
15    assumption to assume that PCE started leaking as  
16    soon as the dry cleaner opened?

17           MR. DEAN:   Object to the form of the  
18    question.

19           THE WITNESS:   You have to understand  
20    the geohydrology of the area. You've got sandy  
21    soils there, so whatever you spill on the ground is  
22    going to instantaneously leak. So --

23    BY MR. ANWAR:

24           Q.     I would like to ask you quickly about  
25    another assumption. The -- I believe in your

1 models it's assumed that the -- the concentration  
2 levels at the wastewater treatment plant are the  
3 same as in finished water, correct?

4 MR. DEAN: Object to the form of the  
5 question. Which models?

6 THE WITNESS: We define what finished  
7 water is early on, and maybe I should just read it  
8 for the record.

9 BY MR. ANWAR:

10 Q. No.

11 A. Okay.

12 Q. Sorry. I'm not asking you to look  
13 through. Just to the best of your recollection.  
14 If you don't recall, it's fine.

15 A. Well, we defined finished water as the  
16 concentrations from the -- at the water treatment  
17 plant that would have been delivered to residents  
18 or people living.

19 Q. I think I was a bit imprecise. For the  
20 Tarawa Terrace model I believed it was assumed --

21 A. Right.

22 Q. -- that the concentrations, after the  
23 mixing model was performed --

24 A. Right.

25 Q. -- coming out of the wastewater

1 treatment plant were the same as in sort of the  
2 finished water coming out of the faucet?

3 A. That's correct.

4 Q. Okay. What was the basis for that?

5 A. That was based on advice from our  
6 expert panel in 2005, March of 2005, specifically  
7 Doctors Tom Walski and Dr. Walter Grayman who  
8 noticed that throughout the history of operation of  
9 Tarawa Terrace all the wells mixed at the water  
10 treatment plant. So if all the wells, every single  
11 one of them, went into -- the contaminated and  
12 non-contaminated went into the water treatment  
13 plant, then you can use a simple mixing model also  
14 known as a CSTR, continuous stirred tank reactor  
15 model, and the concentration resulting from the  
16 mixing model would also be the concentration at any  
17 location within the distribution system.

18 Now, we tested that out, we tested that  
19 assumption out, and it is in Chapter I of the  
20 Tarawa Terrace reports, and we do a comparison of a  
21 very rigorous water distribution system analysis  
22 through looking at locations and looking at the  
23 mixing model. And after about a week or ten days,  
24 they're identical. They're identical. And because  
25 we were looking at monthly mean concentrations,

1 that meant within a month they -- we had no issue.

2 Q. Okay.

3 MR. DEAN: Just one second. I  
4 understood your question and so did the witness  
5 because he obviously just answered it. Just for  
6 the record you used the word wastewater, so I just  
7 want to --

8 MR. ANWAR: Oh, I apologize.

9 THE WITNESS: Water treatment. Water  
10 treatment.

11 BY MR. ANWAR:

12 Q. Water treatment plant. So the question  
13 for the record for the prior -- my question was, I  
14 believe the Tarawa Terrace model assumes that water  
15 that goes for the mixing model that you run in the  
16 wastewater treatment plant --

17 MS. BAUGHMAN: You did it again.

18 BY MR. ANWAR:

19 Q. Oh, waste treatment plant.

20 A. No, water treatment plant.

21 Q. Water treatment plant. Long day.

22 A. Okay. You can start over.

23 MR. DEAN: I'm not going to fuss.

24 BY MR. ANWAR:

25 Q. So I believe the Tarawa Terrace model



1 assumes that the concentrations in the water  
2 treatment plant are the same as in finished water,  
3 correct?

4 A. No, it assumes that the drinking water  
5 distributed throughout the water distribution  
6 system is the same as the concentration of the  
7 water in the water treatment plant.

8 Q. Okay. That is what --

9 A. That's the same assumption that was  
10 used for Hadnot Point also.

11 Q. Do you -- for -- okay. That's helpful  
12 as well. Do you know for Tarawa Terrace there's a  
13 Chapter J and K, and I did not see them online.

14 A. No, no, there was not. Those were  
15 supposed to be -- because of budget and timing, the  
16 last chapter in the Tarawa Terrace series is the  
17 Chapter I, which is about sensitivity uncertainty  
18 and that's where we do the verification testing of  
19 the water distribution system model versus the  
20 simple mixing model, if that's in that chapter.

21 Yes, there were plans, but it was  
22 decided -- I think Chapter J was going to talk  
23 about our field testing of the water distribution  
24 system, that was put over into supplement eight of  
25 the Hadnot Point, okay? So there's only -- Chapter

1 I is the final chapter in the Tarawa Terrace report  
2 series.

3 Q. Okay. Understood. I wanted to quickly  
4 ask you about the uncertainty analysis that you  
5 ran. And my understanding is that as part of the  
6 uncertainty analysis, you chose a range with which  
7 you -- you -- and my term of art may not be  
8 correct, so you can -- you can correct me if I'm  
9 saying this wrong, but you chose plus or minus half  
10 on order of magnitude range with which you wanted  
11 -- you were aiming for the simulated results to  
12 fall within?

13 A. Let me clarify --

14 Q. Sure.

15 A. -- something. That was the calibration  
16 target range and that's not an uncertainty  
17 analysis.

18 Q. Okay.

19 A. Okay. That's two different things. So  
20 I guess my question is, do you want to talk about  
21 calibration targets or do you want to talk about  
22 uncertainty analysis?

23 Q. What did you do for your uncertainty  
24 analysis?

25 A. For our uncertainty analysis we used

1     what we refer to as a two-stage Monte Carlo  
2     simulation where we use Monte Carlo simulation to  
3     assign and to simulate probability density  
4     functions for different model parameters. And then  
5     each time the groundwater or the fate and transport  
6     model ran, when it would call for a certain  
7     parameter, for example, hydraulic conductivity or  
8     dispersivity or whatever, it would go out and  
9     randomly select from the PDF, probability density  
10    function, that -- that value. And so you have a --  
11    a series, what we refer to as realizations of a  
12    whole bunch of different runs, like 800 different  
13    runs.

14           Q.     Sure.

15           A.     Okay. And so using Monte Carlo  
16     simulation, therefore, we can look at the range of  
17     them by looking at -- taking the 2.5 percentile,  
18     looking at the 97.5 percentile, and the difference  
19     gives you 95 percent confidence of all simulations.  
20     So it's a more rigorous approach than just doing a  
21     simplified confidence limit.

22           Q.     So my understanding is the Navy had an  
23     opportunity to -- to review the model as well; is  
24     that right?

25           A.     They critiqued the Chapter A report or

1 the final report. They did not review it. No one  
2 actually, except for the peer reviewers, reviewed a  
3 report before it was publicly released.

4 Q. And I think they ended up sending a  
5 letter sharing some feedback, and some of the  
6 concerns they raised related to calibration in  
7 terms of observed versus simulated data, which  
8 we've discussed.

9 A. Right.

10 Q. And they also discussed the Monte Carlo  
11 simulation. And I think they described that only  
12 510 of the 840 runs resulted in viable  
13 realizations.

14 A. Okay.

15 Q. And I understand that you disagree with  
16 the Navy's critique; is that right?

17 A. That is correct.

18 Q. Okay. Why do you disagree with that?

19 A. Okay. The Monte Carlo simulation did  
20 exactly what we wanted it to do. If you -- if a  
21 parameter changes, let's say pumping, okay, and  
22 you, you know, triple the pumping rate -- and I'm  
23 just using hypothetical examples -- well, then it  
24 may dry out the aquifer, okay? That's not a viable  
25 solution because we know the aquifer doesn't dry

1 out. It's still there.

2 So we put filters on stopping criteria  
3 on our Monte Carlo simulations that if it -- the  
4 aquifer dewatered or it went dry, that it would  
5 stop the realization or the Monte Carlo simulation  
6 right there because that's not a realistic  
7 solution. So the fact that five hundred were  
8 viable solutions and we did -- actually conducted  
9 800 realizations, all that meant is that those  
10 three hundred or so did not produce realistic  
11 results and that's what you would want. You know,  
12 I wouldn't say throw them out, but to have the  
13 Monte Carlo simulation or the model stop running  
14 once it's dried out, that just means that  
15 probability density -- the functions that you  
16 assign to the different model parameters, the  
17 combination of those did not result in a physically  
18 realistic result.

19 Q. Okay. I understand that Congress  
20 mandated the National Research Counsel to also  
21 review the epidemiological study and the Tarawa  
22 Terrace modeling; is that right?

23 A. I'm not sure who mandated it, okay? I  
24 know the Navy contracted with the National Research  
25 Council to review our work at ATSDR.

1 Q. And, you know, I can represent to you  
2 that in your -- I think in your prior deposition --

3 A. Right.

4 Q. -- you -- you indicated that Congress  
5 had mandated the Navy to fund it.

6 A. Okay. Okay. It's been a few years  
7 since...

8 Q. No, I hear you.

9 A. Okay. So...

10 Q. What is your recollection about the --  
11 so let me back up for a second. What is the NRC?

12 A. NRC is the National Research Council,  
13 part of the National Academies of Science.

14 Q. Okay. And is the National Research  
15 Council an arm of the National Academy of Science?

16 A. That's my understanding by going to the  
17 NAS website.

18 Q. The NAS is a nonprofit institution that  
19 advises on science issues in the country?

20 A. I don't know about the nonprofit part,  
21 okay? It's -- I do not believe it's a government  
22 agency.

23 Q. Okay. It is an institution that  
24 advises on scientific issues --

25 A. Okay.

1           Q.    -- in the country; is that -- would you  
2 agree with that?

3           A.    Yes, yes.

4           Q.    Would you agree that the NAS is  
5 generally highly respected?

6                   MR. DEAN:  Object to the form of the  
7 question.  Are you talking about prior to this  
8 case?

9                   THE WITNESS:  I have -- I have really  
10 not dealt with the NAS.  I've read some of their  
11 publications and reference materials, but I cannot  
12 make a recommendation as to whether they, you know,  
13 pro, con, or otherwise.

14 BY MR. ANWAR:

15           Q.    What is your understanding of the NRC's  
16 evaluation of the Tarawa Terrace model?

17           A.    In terms of what they were charged with  
18 or the results?

19           Q.    The results.

20           A.    Well, they were critical of the ATSDR  
21 modeling approach and felt that models or the  
22 models could not be used to reconstruct historical  
23 concentrations.  We, of course, disagreed with that  
24 and we did write an internal document.  I don't  
25 know if it's ever been made public or not, but

1 pointing out what we felt were the  
2 misclassifications, erroneous assumptions, not  
3 considering the Chapter I report, for example.  
4 They critiqued us of not doing uncertainty  
5 analysis, but there's the report right there.  
6 And --

7 Q. Were you -- my understanding is that  
8 you had an opportunity to attend a meeting in D.C.  
9 for the first NRC meeting?

10 A. That is correct.

11 Q. And did you present about the Camp  
12 Lejeune -- I guess at that time it was the Tarawa  
13 Terrace model -- at that meeting?

14 A. We -- that was in 2007, so -- I believe  
15 it was in 2007. We may have been in the final  
16 stages of -- so I probably presented our approach.  
17 I'm not sure if we presented any results or not. I  
18 would have to look at the presentation to see what  
19 we presented.

20 Q. And, you know, we don't need -- I'll  
21 represent to you that the meeting and the documents  
22 indicate the meeting took place on September 24th,  
23 2007. Does that sound right?

24 A. Yes, yes.

25 Q. Okay. Did you have an opportunity to



1 communicate with anyone from NRC about your -- the  
2 Tarawa Terrace model?

3 A. Yes, a number of people. Specifically  
4 the person who was, I guess, in charge of their --  
5 what they refer to as Chapter 2, which is exposure  
6 assessment. We provided information as he needed,  
7 whether it was data or analyses. Wanted to know  
8 how we were classifying the source at ABC One-Hour  
9 Cleaners, so there's e-mails back and forth.

10 Q. Who was that person?

11 A. That was Dr. Prabhakar Clement.

12 Q. Okay.

13 A. And then I also communicated with the  
14 executive secretary. I forget her name right off  
15 the bat, but -- Martel. Susan, Susan. I believe  
16 she's a doctor, Susan Martel. And I communicated  
17 with her both in terms of attending that meeting  
18 and issues that I saw that the committee should  
19 consider.

20 Q. Okay. I'm marking an exhibit. It will  
21 be marked Exhibit 13.

22 (DFT. EXHIBIT 13, e-mail correspondence  
23 Bates-stamped CLJA\_ATSDR\_BOVE\_0000108607 and  
24 108608, was marked for identification.)

25 BY MR. ANWAR:

1 Q. It is -- I'll represent to you it's an  
2 e-mail communication from you -- well, it's an  
3 e-mail exchange. The top e-mail is from you to  
4 what appears to be your ATSDR team.

5 A. That's correct.

6 Q. And the body of the e-mail says "look  
7 at the second paragraph from Dr. Clement, a member  
8 of the National Research Council Committee on  
9 contamination of drinking water at Camp Lejeune.  
10 It's nice to get words of praise from unbiased and  
11 technically competent colleagues about our  
12 abilities and work."

13 Did I read that correctly?

14 A. That is correct.

15 Q. Do you -- do you believe Dr. Clement to  
16 be an unbiased and technically competent colleague?

17 MR. DEAN: Object to the form of the  
18 question.

19 THE WITNESS: In his correspondence  
20 with me, in that I felt he was objective and  
21 competent, but that's what sort of -- that is, in  
22 fact, what caught us by surprise when the report  
23 came out and it was basically 100 percent opposite  
24 of what he and I had been communicating about.

25 BY MR. ANWAR:

1           Q.    When you say -- you mean the NRC  
2   report?

3           A.    Yes, yes, yes, yes, the one that was  
4   published in June -- or released in June 2009.

5           Q.    And in 2010, Dr. Clement, I believe,  
6   issued an article himself and it was entitled  
7   "Complexities in Hindcasting Models When Should We  
8   Say Enough is Enough." Do you recall that article?

9           A.    Yes, I do.

10          Q.    What do you -- what is your  
11   understanding about it? What do you recall?

12          A.    I recall that we responded to it. Our  
13   agency allowed us to respond to it because, again,  
14   like the NRC report, we found a number of issues  
15   that were either mischaracterized or were presented  
16   not in the way that we thought they should have  
17   been presented. And so the journal Groundwater  
18   where he published his article, the editor -- which  
19   they usually do not let you do a ten-page response,  
20   they allowed us -- they recognized of the  
21   complexity and -- and the, I guess, political  
22   sensitivities of the whole Camp Lejeune issue, and  
23   so they allowed us to respond, which -- which we  
24   did, and I forget the exact date that we sent a  
25   response in, but we can find that if you need it.

1           Q.    Wasn't the thrust, to the best of your  
2   recollection, of Dr. Clement's article calling into  
3   question the value of historical reconstruction due  
4   to the limited data and uncertainty of historical  
5   reconstruction?

6           MR. DEAN:   Object to the form of the  
7   question.

8           THE WITNESS:   My understanding is, or  
9   at least started out, I think, to -- to make a  
10  philosophical discussion as to how much funding and  
11  how long of a time should projects that go on, in  
12  other words, and should we be using simpler models  
13  or more complex models, in other words.  And when  
14  -- when there's -- you're not obtaining any return  
15  for your investment.

16          Q.    Okay.  And I understand that you  
17  responded and then Dr. Clement had a response to  
18  your response, correct?

19          A.    Yes, yes, yes.  And that's the article  
20  or our response where we challenge the use of -- or  
21  disagreed professionally with -- with -- with the  
22  term hindcasting.

23          Q.    Do you still consider Dr. Clement to be  
24  a technically competent and unbiased colleague?

25          A.    Competent, yes, and -- I mean, I

1 haven't dealt with him on issues like that to say  
2 biased or unbiased, but one would make the  
3 assumption he's in academia that, in fact, you  
4 would like your work to be considered unbiased.

5 Q. And the -- the issue the NRC had with  
6 the Tarawa Terrace modeling was what it described  
7 as uncertainty as well, correct?

8 A. That was one of them. They -- they had  
9 an issue about the characterization of the source  
10 at Tarawa Terrace, that they insist -- the NCR  
11 report described it as a dense non-aqueous phase  
12 liquid or a DNAPL and the data just did not support  
13 that. And we felt that was especially egregious if  
14 they're complaining about not having sufficient  
15 field data. We had a lot of field data at ABC that  
16 demonstrated it was a dissolved phase. And on top  
17 of that, as we pointed out in our -- I think it was  
18 37-page response NRC report, the remediation system  
19 approved by the State of North Carolina and USEPA  
20 was only valid for dissolved -- pump and treat can  
21 only deal with dissolved phase liquids. That's not  
22 treat. It's -- cannot be used for DNAPL.

23 And so we felt there was a complete  
24 mischaracterization of the source at ABC One-Hour  
25 Cleaners and then, of course, the uncertainty,

1     okay? And I believe the Chapter I report was  
2     available in March of 2009. I'll have to look it  
3     up and see what the date is, but it was before the  
4     NRC report was released. And I am sure if the  
5     NRC -- in fact, there's an e-mail where I told --  
6     communicated to Dr. Clement that we had an  
7     uncertainty analysis report, completed report, that  
8     I thought the NRC committee should see. But if the  
9     NRC committee had wanted to see it, even if it's  
10    unpublished form, I'm sure our agency leadership  
11    would have allowed them to do that.

12           Q.     Okay. I'm showing you what we're --  
13    we're pulling up what is being marked as  
14    Exhibit 14. It should be uploaded to the exhibit  
15    platform.

16                   (DFT. EXHIBIT 14, e-mail correspondence  
17    Bates-stamped CLJA\_WATERMODELING\_01-0000080493, was  
18    marked for identification.)

19    BY MR. ANWAR:

20           Q.     So this is an e-mail from you to Susan  
21    Martel dated May 15, 2008?

22           A.     That is correct.

23           Q.     That's correct?

24           A.     That's correct.

25           Q.     Okay. Who is Susan Martel?

1           A.     She was the -- I knew of her as the  
2     executive secretary of the NRC committee and was  
3     looking at contaminated drinking water at Camp  
4     Lejeune. And I believe she is the one that sent me  
5     the invitation to make a presentation at -- in  
6     Washington D.C.

7           Q.     So here in this e-mail you write, "Dear  
8     Susan, since ATSDR presented information to the  
9     committee on September 24th pertaining to our  
10    agency's current health study including water  
11    modeling activities at Camp Lejeune, I and my  
12    colleagues at ATSDR have provided additional  
13    information and responses to inquiries from  
14    committee members and we continue to be very  
15    supportive of the NRC's charge and mission with  
16    respect to the Camp Lejeune issues."

17                Did I read that first paragraph --

18           A.     Yes.

19           Q.     I read that first paragraph correctly?

20           A.     That is correct.

21           Q.     Okay. Second paragraph says "I have  
22    become aware, however, in responding to inquiries  
23    and information requests that all of the NRC  
24    committee members may not have -- may not be fully  
25    aware or appreciate the technical issues,

1 logistical, and budgetary constraints faced by  
2 ATSDR, especially within the last six months."

3 Did I read that correctly?

4 A. Yes.

5 Q. What did you mean in that paragraph?

6 A. This is 2008. So it appeared to me  
7 that they were focusing solely on Tarawa Terrace,  
8 but we were still going through the data for Hadnot  
9 Point, and they were going to make, you know, their  
10 -- their goal or mission, from the title of the  
11 report, "is contaminated water at Camp Lejeune."  
12 It didn't say "contaminated water at Tarawa  
13 Terrace", but it said "at Camp Lejeune." So they  
14 should have considered or at least asked what data  
15 we had for Hadnot Point in that -- that area.

16 And then also I think around that time  
17 is when we had some substantial budgetary issues  
18 with the -- the Navy either delaying funding or  
19 whatever, and so my concern was that would be  
20 reflected in, you know, negatively on the progress  
21 of the modeling and I thought that was important  
22 for committee members to also understand.

23 Q. Okay. The third paragraph reads --  
24 "therefore --

25 A. Kevin, can you put up the third



1 paragraph? Okay.

2 Q. "Therefore, I am requesting that you  
3 and the NRC committee consider convening a  
4 closed-door meeting with ATSDR health study and  
5 water modeling staff so that we are able to address  
6 any and all questions committee members may have.  
7 We feel this would be a useful time for the NRC  
8 committee members in preparing its draft report and  
9 recommendations."

10 Why did you request a closed-door  
11 meeting?

12 A. I just -- because we had attended the  
13 public meeting, okay, where we made the  
14 presentation, and I -- I -- perhaps that was a bad  
15 choice of words, but I wanted it to be a  
16 scientific, highly technical meeting and thought  
17 that the closed-door meeting -- my definition of  
18 closed-door meeting meant for scientists and  
19 technical people working on Camp Lejeune to get  
20 together and discuss technical issues. I was  
21 thinking it in terms of, like, our expert panels  
22 that we had at ATSDR, whereas, if we held an open  
23 public meeting, you know, you would have other  
24 issues being brought -- brought -- brought in that  
25 would detract from the technical and scientific

1 issues we wanted to cover.

2 Q. The fourth paragraph reads "this  
3 meeting could take place at ATSDR's Chamblee campus  
4 at NRC headquarters at a location -- or at a  
5 location of mutual convenience to the NRC committee  
6 members."

7 A. Right.

8 Q. I read that correctly?

9 A. Yes.

10 Q. And then the last paragraph there says,  
11 "I cannot stress strongly enough that the ATSDR  
12 health study staff including water modeling staff  
13 want the NRC committee members to have all  
14 information it needs and requires to fulfill its  
15 mission and we believe that additional time spent  
16 with ATSDR staff will greatly help accomplish this  
17 mission."

18 Did I read that correctly?

19 A. Yes.

20 Q. What did you mean there?

21 A. Just what it says, is that, again, we  
22 did not feel the -- based on e-mail communication,  
23 primarily from me and Dr. Clement, I assume they  
24 may have been similar to the health scientist, the  
25 request for information and -- and all of that,

1 that they were not getting the complete picture,  
2 okay? And we wanted to make sure they had all  
3 information and all data available as to the most  
4 current time, which would have been the date of  
5 that letter, May 2008.

6 Q. At this time did you -- did you  
7 discover or get a sense when you -- at the time  
8 that you were writing this e-mail that the NRC's  
9 report may come out negative towards the water  
10 modeling?

11 A. Not at all. Not at this time. Again,  
12 that is what took us by -- by surprise, to be quite  
13 honest.

14 THE VIDEOGRAPHER: I need to go off  
15 record within five minutes.

16 MR. ANWAR: What's that?

17 THE VIDEOGRAPHER: I just need to go  
18 off record within five minutes.

19 MR. ANWAR: Okay. Let's go off now.

20 THE VIDEOGRAPHER: Going off the  
21 record. The time is 4:32 p.m.

22 (Off the record.)

23 THE VIDEOGRAPHER: Going back on the  
24 record. The time is 4:35 p.m.

25 BY MR. ANWAR:

1 Q. Okay. We are back on the record from a  
2 short break. We're marking -- you're about to be  
3 shown what is being marked as Exhibit 15.

4 (DFT. EXHIBIT 15, e-mail correspondence  
5 Bates-stamped CLJA\_ATSDR\_BOVE\_0000160913 and  
6 160912, was marked for identification.)

7 BY MR. ANWAR:

8 Q. And let me know when you can see it.  
9 Can you see it?

10 A. Yes, I can see that. I'm sorry. Yeah.

11 Q. Okay. So this -- appears to be an  
12 e-mail communication from you dated January 12th,  
13 2007 to the -- what looks to be the water -- the  
14 water modeling and epidemiology team at ATSDR; is  
15 that right?

16 A. That is -- well, let me -- can you see  
17 who it's sent to and I'll tell you. Yes, yes,  
18 that's correct.

19 Q. Okay. And so I'll just work through  
20 this e-mail. Subject is "finalizing modeling  
21 activities for Tarawa Terrace," correct?

22 A. Right, that's correct.

23 Q. And then the importance is high. And  
24 the opening line in blue "an open e-mail, slash,  
25 letter to those conducting groundwater flow, fate

1 and transport modeling at Tarawa Terrace and  
2 vicinity. This e-mail comes as a result of what I  
3 perceive is differing opinions, each valid, I am  
4 convinced, from perceived data limitations and  
5 modeling assumptions, as to what, quote, calibrated  
6 parameter values should be used, depending on the  
7 model being used and its level of sophistication.

8 In this particular case there is  
9 apparently a discrepancy on the value of the  
10 biodegradation rate for PCE between 0.0006 per day  
11 to 0.0004 per day. There are two different levels  
12 of sophistication of models used. MT3DMS versus  
13 TechFlowMP and a lack of definitive data to compare  
14 modeling results against, non-detects ranging from  
15 two milligrams per -- micrograms per liter to ten  
16 micrograms per liter, in my opinion, do not  
17 constitute a definitive standard by which to  
18 compare modeling results."

19 Did I read that correctly?

20 A. Yes, yes.

21 Q. Can you -- can you tell me what  
22 biodegradation rate is?

23 A. When a constituent -- or contaminant  
24 such as PCE goes in groundwater, it has degradation  
25 products. So for example, PCE degrades to TCE and

1 then degrades to DCE, one of the forms, trans or  
2 cis DCE, and then degrades down to VC, vinyl  
3 chloride, okay? So that's degradation.

4 The approach ATSDR took initially using  
5 the MT3DMS model was not to degrade to PCE, okay?  
6 What we wanted to check out was that a gross error  
7 was that, you know, giving a higher concentration  
8 -- a substantially higher concentration to PCE than  
9 had we degraded it so I asked our corporative  
10 agreement partners, who I knew had a model, and did  
11 multi -- multiphase flow so they could degrade PCE  
12 to run it as -- as well and look at the degradation  
13 products and look to see, then I compare if there  
14 was a substantial difference or not.

15 Q. Does it -- is it fair to characterize  
16 -- strike that.

17 Would you agree that a higher  
18 degradation rate means more of the PCE is degrading  
19 away as water is moving towards wherever it's  
20 heading, the water treatment plant or the finished  
21 -- the water distribution system?

22 MR. DEAN: Object to the form of the  
23 question.

24 THE WITNESS: It would degrade at a  
25 faster rate.

1 BY MR. ANWAR:

2 Q. And here it says "non-detects ranging  
3 from two micrograms per liter to ten micrograms per  
4 liter, in my opinion, do not constitute a  
5 definitive standard by which to compare modeling  
6 results."

7 Why, in your opinion, do non-detects  
8 not constitute a definitive standard by which to  
9 compare modeling results?

10 MR. DEAN: Object to the form of the  
11 question. You're asking for an opinion, which he's  
12 not yet completed his work in this case.

13 BY MR. ANWAR:

14 Q. And let me reframe the question. Why  
15 at this time when you wrote this e-mail did you  
16 think that in your -- did you hold the opinion that  
17 non-detects do not constitute a definitive standard  
18 by which to compare modeling results?

19 A. At the time that I wrote that there was  
20 a -- as I pointed out, a difference of opinion  
21 between, I believe, the modeling team at Georgia  
22 Tech and the ATSDR modeling team as to what the  
23 degradation rate should be for PCE not having any  
24 measured values. And so I didn't want to just look  
25 at the samples that said non-detect, okay, because

1 that really wouldn't tell you the impact of the  
2 degradation of the PCE, okay? If you had samples  
3 that, you know, 10, 20, 30 or whatever and then one  
4 model is predicting higher or lower, then that  
5 could help you assess which value to use.

6 Q. Aren't non-detects data also that  
7 should be considered?

8 A. Oh, we considered it in our  
9 calibration, in our analysis, but for this  
10 particular issue I -- I did not want it considered  
11 because I did not believe as a science technical  
12 project officer for this project that that would  
13 give us a definitive resolution of the parameter  
14 value. This is -- this type of discussion goes on  
15 and on in all model calibration efforts or model  
16 simulation and calibration efforts. Whether it's  
17 complex is you don't have -- especially, like,  
18 degradation rates. Unless you've gone into the  
19 laboratory and measured them, out in the field you  
20 don't have them, so you use the model to determine  
21 what value should be -- should be used, and we were  
22 coming up with two different -- two different  
23 rates, okay?

24 Q. The second paragraph reads "as the  
25 agency is under tremendous pressure, if not,



1 outright criticism to immediately, all caps,  
2 provide a report on Tarawa Terrace we no longer  
3 have the time to debate this matter any further.  
4 I'm calling a tie in the battle of models.  
5 Therefore, as project officer for this -- for this  
6 project, I have made the following decision and I  
7 am requesting everyone involved abide by my  
8 decision."

9 I wanted to ask you, what was the  
10 tremendous appreciate, if not, outright criticism?

11 A. Could you scroll to the date of that  
12 letter?

13 MR. DEAN: Yeah, that's what I was  
14 looking at.

15 THE WITNESS: That was January 2007.  
16 BY MR. ANWAR:

17 Q. So just for the purpose of the record,  
18 my question is what was the tremendous pressure, if  
19 not, outright criticism that the water modeling  
20 team was facing and the agency was facing, meaning  
21 ATSDR?

22 A. Yeah, ATSDR. We were facing from the  
23 public and -- and the CAP why there was a delay in  
24 producing modeling results to be released to the  
25 public. And there were, you know, the agency

1 leadership would come to us and say what's taking  
2 so long and why haven't you completed the report  
3 and put it out? And again, because we -- we wanted  
4 to cover all aspects of the contaminant fate and  
5 transport, that's why we asked our university  
6 partner to do a degradation analysis, not just the  
7 single source that we used, okay? I felt that was  
8 critical to understand if, in fact, we were way  
9 overestimating PCE concentrations or not.

10 And so there was pressure to complete  
11 the Tarawa Terrace, you know, and quarterly reviews  
12 and things like that, pressure to -- to complete  
13 the Tarawa Terrace modeling.

14 Q. Do you -- you say here "we no longer  
15 have time to debate this matter any further." Did  
16 the pressure that you were facing impact the  
17 scientific process that you were undertaking in  
18 performing water modeling related to Camp Lejeune?

19 A. I don't believe it did because, again,  
20 they were two different values from two different  
21 models. And this is a typical discussion that has  
22 gone -- that anyone or any team that goes through  
23 fate and transport modeling conducts. It's not --  
24 this is not an unusual occurrence, this type of  
25 discussion, and we had similar discussions with

1 Hadnot Point. And I felt that there was really  
2 no -- no way in a rapid sense to say whether the  
3 0.006 was more acceptable or the 0.004. So I said  
4 we needed to make a decision, okay?

5 Q. On -- thank you.

6 On 0.3 it states "no quantitative  
7 comparisons will be made using non-detect ND  
8 samples. As the detection limits for these samples  
9 range from two micrograms per liter to ten  
10 micrograms per liter, using these values is a  
11 double edge sword that will come back to attack us  
12 because those who review our modeling results will  
13 pick an ND value to justify their point of view and  
14 contradict our results."

15 Did I read that correctly?

16 A. That is correct.

17 Q. I wanted to start with the first  
18 sentence, no quantitative comparisons will be made  
19 using non-detect ND samples." What did you mean by  
20 that?

21 A. A number of the samples, as you can  
22 read in the report, had non-detects in them, which  
23 means they were below the detection limit. My  
24 concern was that depending on your point of view,  
25 non-detect -- and we had numerous discussions, say,

1 for -- with our point of contacts at Camp Lejeune,  
2 they assume non-detect meant zero concentration,  
3 okay. On the other hand, because you have a  
4 detection limit of say one to ten micrograms per  
5 liter, you could have others that say, well,  
6 non-detect just meant it fell within or outside the  
7 detection limit, so you've got just differing  
8 opinions. So initially I -- I said let's just use  
9 what I call, you know, the real data, the data  
10 that's above the detection limits.

11 Q. Why is non-detect not real data?

12 A. I didn't say it wasn't real data. I  
13 said -- and actually we reversed that because -- in  
14 our report we do go back to that. And it's not  
15 that I'm a believer that non-detect -- that should  
16 be used, but I think I was referring to this  
17 specific -- this specific issue of the  
18 biodegradation rate.

19 Q. And what did you mean when you said  
20 "using these values as a double edge sword that  
21 will come back to attack us because those who  
22 review our modeling results will pick an ND value  
23 to justify their point of view and contradict or  
24 results?"

25 A. That's exactly what I said before and

1 perhaps I can explain it better. If -- if you --  
2 say a model simulation is at five micrograms per  
3 liter, okay, if your detection limit is ten, it's  
4 below the detection limit, okay? Five is below the  
5 detection limit. It's just a real, real number.  
6 So those who, say, want to except your modeling  
7 results, they will say, oh, yeah this is great,  
8 it's below the detection limit, but it's, you know,  
9 five is greater than zero.

10 On the other hand, as I pointed out,  
11 you'll have those that will say, well, if the  
12 sample says it's below the detection limit, that  
13 means it's zero, okay? So you can't win either --  
14 either -- either way.

15 Q. Is those differing view points that  
16 you're describing, would -- would that be  
17 considered sort of reasonable scientific debate and  
18 was -- go on.

19 A. Yeah, I would say there's difference of  
20 scientific opinion. Again, this is dated January  
21 of 2007. By the time we moved on later in the year  
22 and solved the issue of degradation rate, we did,  
23 in fact, did use the non-detects to compare  
24 modeling results with, so we did not discard  
25 non-detects, okay? We looked at the detection

1 limit. So I'm -- I'm probably convinced at this  
2 point that this e-mail was written at the height --  
3 height of the differing of opinions which, you  
4 know, technical teams go through in...

5 Q. Based on the timing of this e-mail,  
6 it's January 2007, correct? And I think you stated  
7 earlier it was June of 2007 where you were called  
8 to a senate hearing --

9 A. Right.

10 Q. -- on Camp Lejeune, right?

11 A. Right.

12 Q. Were you feeling political pressure  
13 when you're referring to the pressure in the  
14 e-mail?

15 A. I did not have -- I was not in any  
16 direct communication with politicians, but our  
17 agency leadership probably were or at least got  
18 feedback from them, and so they were pressuring us  
19 to finish up.

20 Q. At the end I wanted to ask you about  
21 this last paragraph, "the bottom line, it is time  
22 to stop modeling and, quote, fine tuning models as  
23 we do not have the data to justify further modeling  
24 analysis."

25 A. Right.

1           Q.    "The agency does not have the time to  
2 devote to additional modeling analyses --

3           A.    Oh, I'm sorry. I'm not seeing that.  
4 There we go. Okay.

5           Q.    And then the last sentence, "we have a  
6 CAP meeting scheduled in the beginning of March and  
7 I must have a completed draft report."

8                        So I wanted to first ask you about the  
9 first sentence in that last paragraph, "the bottom  
10 line, it is time to stop modeling and fine tuning  
11 modelings as we do not have the data to justify  
12 further analyses."

13                       What did you mean by "we do not have  
14 the model to justify further modeling analysis?"

15           A.    Well, the sample on the top of the  
16 page, in other words, the degradation rate, we can  
17 go back and forth and do additional, additional,  
18 additional simulations trying to see which  
19 parameter value would -- would be more acceptable  
20 or more realistic, and you can do that with all  
21 model parameters. And typically, you know, you  
22 want to, again, try to get your calibration values  
23 as close as possible to your observed values.

24                       So at a certain point you have to  
25 accept that we're all only going to be within plus

1 or minus five feet of water level instead of plus  
2 or minus three feet of water level. If not, you  
3 can keep modeling adding an item and that's what I  
4 did not want to see, and I felt because of having  
5 reviewed the Tarawa Terrace data, knowing the  
6 limited data that we had, that we probably would  
7 not be able to refine modeling to make, you know,  
8 additional decisions as to parameter values and  
9 things of that nature.

10 Q. And then that last sentence reads, "we  
11 have a CAP meeting scheduled in the beginning of  
12 March and I must have a completed draft report."

13 A. Right.

14 Q. Were you feeling pressure from the CAP  
15 to complete --

16 A. It was communicated to me that the CAP  
17 would be expecting a report.

18 Q. Who communicated it to you?

19 A. I don't have a specific individual  
20 necessarily. It may have come up in our branch  
21 meeting or division meeting, okay, in other words,  
22 just to make us aware that we're having a CAP  
23 meeting and the CAP has, I'll say, requested or  
24 said they are expecting to have a final report.  
25 And the reason it's a final report is because the



1 CAP wanted to see modeling results and it was  
2 agency policy not to release modeling results  
3 publicly until a report was publicly released.

4 Q. Wouldn't you have preferred to have  
5 built consensus among your team and made sure all  
6 of the modelers on your team were in agreement on  
7 the parameters to make sure what you were -- you  
8 were giving to the CAP, you felt confident as  
9 opposed to rushing to get it done?

10 A. This was the only real parameter that  
11 there was a question about, and the reason why is  
12 because, again, we went to a more sophisticated  
13 model that -- the degradation, the degradation  
14 byproducts. So I don't -- I don't think I was  
15 rushing them. We had people doing model  
16 simulations and looking at the various values and  
17 seeing what impact they had at different locations  
18 in the model.

19 And you know, we were not coming up  
20 with a definitive result as to which specific  
21 value, and to me that seemed to be a small range,  
22 0.006 to 0.004, and so I just made a, you know,  
23 project officer decision that, well, let's just  
24 take the average or go with the -- the mid --  
25 midpoint value.

1           Q.    The 0.0005 biodegradation rate is the  
2   rate that ended up in the Tarawa Terrace model,  
3   correct?

4           A.    That is my understanding.  I would have  
5   to look in -- in Chapter F, okay?

6           Q.    I can tell you I've looked and that's  
7   what I saw.

8           A.    Okay.  Well, then that's -- that's --  
9   you know, and all the team members were -- I think  
10  in part they were looking for a decision to be  
11  made, okay, in other words.

12          Q.    Okay.  Can we pull up the next exhibit.  
13  Is this 15?

14               MR. ANTONUCCI:  16.

15               MR. ANWAR:  16.

16               (DFT. EXHIBIT 16, e-mail correspondence  
17  Bates-stamped CLJA\_WATERMODELING\_010000075306 and  
18  75307, was marked for identification.)

19  BY MR. ANWAR:

20          Q.    We're showing you what is being marked  
21  as Exhibit 16.  Can you see it?

22          A.    Yes.

23          Q.    This is an e-mail dated January 13,  
24  2007 from Robert Faye to you, Morris Maslia.  Do  
25  you agree with that?

1           A.    Yes.

2           Q.    Okay.  The subject is "MT3DMS results"  
3   and the Morris -- or excuse me, the e-mail starts,  
4   "hi, Morris, I've rerun the fate and transport  
5   model with a biodegradation rate of 0.0005 as  
6   required.  The results are only marginally  
7   acceptable and certainly do not represent our best  
8   calibration.  Nevertheless, I intend to finish the  
9   report with the current simulation results and  
10  explain to them -- explain them to the best of my  
11  ability.  Because of the marginal results several  
12  issues have come to mind that I need to share with  
13  you and which I hope to discuss with you in the  
14  future.  I have listed these issues below."

15                   Did I read that correctly?

16           A.    Yes.

17           Q.    In number one he says "I find it will  
18  be -- I find it very difficult to defend these  
19  results to my technical peers or in a court of law.  
20  Consequently, I would like to write a letter to the  
21  record to you and to ERG explaining what has  
22  happened, why the results are what they are, and  
23  addressing my concerns.  I will send a draft of  
24  this letter to you first and ask for your  
25  comments."

1 Did I read that correctly?

2 A. Yes, yes, you did.

3 Q. Did you receive a draft of this letter  
4 to the record from Robert Faye?

5 A. I do not recall.

6 Q. Okay. I will represent to you that I  
7 did not find it in the water modeling project  
8 files.

9 A. Okay. Then it was not sent.

10 Q. Okay. Number two, "I believe we have  
11 violated a fundamental rule of good modeling  
12 procedure. We let the tail wag the dog and  
13 assigned extraordinary credibility to simulated  
14 numbers rather than to well-established concepts."

15 When -- did I read that correctly?

16 A. Yes.

17 Q. And when he says "we let the tail wag  
18 the dog", what he's really saying is we -- we  
19 pushed to get to a certain result, right?

20 MR. DEAN: Object to the form of the  
21 question.

22 THE WITNESS: I think he may have been  
23 referring to the push to finish, finish the  
24 modeling analyses, okay, by a deadline, by a  
25 deadline.

1 BY MR. ANWAR:

2 Q. Okay. So you think he was referring to  
3 the deadline and not furthering the debate?

4 A. Yes, yes.

5 Q. What -- he says "we have violated a  
6 fundamental rule of good modeling procedure." Do  
7 you know what fundamental rule of good modeling  
8 procedure he's referring to here?

9 MR. DEAN: Object to the form of the  
10 question.

11 THE WITNESS: I do not.

12 BY MR. ANWAR:

13 Q. The e-mail goes on, "when a choice must  
14 be made between accepting less than a -- than  
15 desirable model results or violating or  
16 compromising valid conceptual models, I believe we  
17 should accept the undesirable results and explain  
18 the limitations of the simulations in that  
19 context."

20 Did I read that correctly?

21 A. Yes.

22 Q. And based on those two sentences, he's  
23 clearing talking about the results and not the  
24 timing, right?

25 MR. DEAN: Object to the form of the

1 question. Ask the person who had drafted the  
2 e-mail.

3 THE WITNESS: I couldn't say whether  
4 he's talking about the timing or -- again, I don't  
5 -- when I say I don't recall, it's been so long, I  
6 don't recall specifically this -- this e-mail other  
7 than it exists. And reading it, I do recall having  
8 a conversation with Mr. Faye and, you know, that  
9 was his -- his, you know, opinion.

10 BY MR. ANWAR:

11 Q. Do you recall the conversation that you  
12 had with Mr. Faye?

13 A. No, I do not.

14 Q. Number three says, "I would like to  
15 insert a statement in the fate and transport report  
16 that ATSDR -- ATSDR required 100 percent agreement  
17 between the MT3DMS model and the Georgia Tech model  
18 regarding fate and transport parameters. As a  
19 result, the biodegradation rate assigned to both  
20 models was a compromise between the best rates  
21 determined by individual model calibration."

22 Did I read that correctly?

23 A. That's correct.

24 Q. Do you -- do you know what he's  
25 referring to there?

1           A.    No.  I -- looking at this e-mail -- and  
2   I've known Mr. Faye for 40-some-odd years since our  
3   time at -- as with any person conducting modeling  
4   or whatever, you sometimes blow things out of  
5   perspective, okay, and I believe he thought that  
6   his best modeling or calibration approach may have  
7   been questioned by our university partner, okay,  
8   and vice versa, okay?  They may have felt that he  
9   was trying to tell them what the best parameter  
10  values were, okay?

11                So now that I see that and the length  
12  of it, and knowing Mr. Faye, it was letting off  
13  steam, okay, because there was no such statement,  
14  to my knowledge, put in the fate and transport  
15  report.

16           Q.    0.4 states, "from a technical point of  
17  view, I believe most or all of this unfortunate,  
18  quote, mess has evolved from flawed concepts and  
19  applications on the part of Georgia Tech.  
20  Specifically they applied the calibrated mass  
21  loading rate from the M3DMS [sic] model to the  
22  unsaturated and saturated zones represented in  
23  their model.

24                I assume initially they also applied  
25  the calibrated MT3DMS degradation rate to the

1 unsaturated and saturated zones. Degradation in  
2 the saturated zone is aerobically driven and occurs  
3 at rates that are possibly several orders of  
4 magnitude greater than anaerobic degradation. The  
5 degradation rate that I computed at well TT-26 was  
6 reasonably an anaerobic rate also applying the  
7 calibrated mass loading rate from the MT3DMS model  
8 to the unsaturated zone directly equates the  
9 actual, quote, real-world PCE loss rate at ABC One  
10 Cleaners to the MT3DMS mass loading rate.

11           Such an equation is absurd as it does  
12 not account for retention and degradation within  
13 the unsaturated zone. The MT3DMS code requires  
14 that mass loading be applied directly to the water  
15 table and thus can represent at best only at the  
16 minimum loss rate at ABC One-Hour Cleaners. I  
17 believe if Georgia Tech had calibrated instead to  
18 simulate PCE concentrations at the water table at  
19 the loading elements and had applied a reasonable  
20 aerobic degradation rate to their unsaturated zone,  
21 then a mass loading rate significantly greater than  
22 the calibrated MT3DMS rate would result for the  
23 Georgia Tech model.

24           This rate would more directly equate to  
25 the PCE loss to -- due to operations at ABC



1 One-Hour Cleaners. In addition, these approaches  
2 would result in a correspondingly greater PCE mass  
3 in the saturated zone and quite possibly the  
4 calibrated biodegradation rates assigned to the  
5 MT3DMS and Georgia Tech model would be highly  
6 similar."

7 Did I read all of that correctly?

8 A. Yes.

9 Q. What is your recollection or your  
10 understanding of what he's saying here?

11 A. Basically he's letting off steam as to,  
12 you know, the differences in the modeling approach,  
13 yeah, and you did have two different models. The  
14 MT3DMS is a saturated zone. Only from the water  
15 table Georgia Tech model went from land surface  
16 down. And I believe this whole discourse was  
17 basically eventually resolved, okay? And I don't  
18 know if it was a formal meeting or not, but we did  
19 -- I mean, between Mr. Faye and Georgia Tech and  
20 myself.

21 So, again, this was one of those things  
22 that I believe knowing Mr. Faye in the elongated  
23 e-mail, I think he was just frustrated that he had  
24 felt he had a calibrated model, Georgia Tech felt  
25 they had a calibrated model, and, you know, it's --

1 that happens I would say often in these types of  
2 analyses. Not necessarily just historical  
3 reconstruction, but just modeling analyses when  
4 you're trying to compare a simpler model or a model  
5 making certain assumptions versus a more complex  
6 model.

7 Q. And so the last paragraph there states  
8 "the application of the anaerobic degradation rate  
9 to the unsaturated zone and the direct equation of  
10 the actual PCE loss due to operations at ABC  
11 One-Hour Cleaners to the mass loading rate  
12 calibrated for the MT3DMS model violates sound  
13 reasoning and hydraulic principles. I am not at  
14 all surprised that Georgia Tech found less PCE mass  
15 than required for a reasonable simulation. The  
16 fault, however, was not in the assigned degradation  
17 rate, but rather in their flawed concepts and  
18 reasoning. I suspect a thorough technical  
19 review" --

20 A. Yeah, can you -- hold on. Can you  
21 scroll up? Okay.

22 Q. Okay. I apologize. "I suspect a  
23 thorough technical review by my competent peers  
24 will point out these issues."

25 Did I read that correctly?

1           A.     Yes.

2           Q.     Okay.  And then the last paragraph,  
3     "let me emphasize, I do not intend to change the  
4     current model results and I'm not asking for any  
5     dispensation to do so, however, I would like to  
6     follow through on my letter to the record and my  
7     other requests as soon as possible.  Please let me  
8     know your thoughts at your earliest convenience."

9                     Did I read that correctly?

10          A.     That is correct.

11          Q.     Did you -- do you recall ever  
12     responding to this e-mail?

13          A.     No, I do not.

14          Q.     And I think you --

15          A.     I do not recall receiving a letter  
16     either.  And again, this was, I think, you know,  
17     Mr. Faye was not physically located at our  
18     headquarters.  He was at his office, which was in  
19     North Georgia, so we did everything by phone or by  
20     e-mail.  And I think it's just an expression of  
21     frustration.  I think we eventually sort of got --  
22     got together.

23          Q.     Okay.  I wanted to shift gears a little  
24     bit.  I know I'm running up probably on the hour,  
25     so I would like to --

1           A.     It's fine.

2           Q.     -- get through this.

3                   Do you have any family or friends that  
4 have filed legal claims related to Camp Lejeune?

5           A.     Not that I'm aware of.

6           Q.     Okay.  Aside from serving as an expert  
7 now for the plaintiffs, have you ever received any  
8 compensation from someone other than ATSDR related  
9 to your Camp Lejeune water modeling work?

10          A.     No, I have not.

11          Q.     Let's pull up the next exhibit.  This  
12 will be the January 17, 2009 -- actually this might  
13 be the wrong one.  I apologize.  Give me one  
14 second.  Let's do -- actually I think it's the  
15 right one.

16                   (DFT. EXHIBIT 17, e-mail correspondence  
17 Bates-stamped CLJA\_WATERMODELING\_01-09\_0000034863  
18 through 34866, was marked for identification.)

19 BY MR. ANWAR:

20          Q.     Okay.  I wanted to ask -- so what you  
21 should be seeing now is an exhibit that we're  
22 marking as Exhibit 17.

23          A.     Right.  Okay.

24          Q.     It's an e-mail exchange with the last  
25 e-mail dated June 17, 2009.  Do you see that?

1           A.     Yes.

2           Q.     Okay.  And among the recipients in this  
3     e-mail, you are -- your e-mail is copied there in  
4     the middle of the recipients.

5                     If we scroll down the chain, the first  
6     e-mail on the chain starts June 17, 2009 and it is  
7     an e-mail from Richard Clapp, who I believe was a  
8     CAP member, right?

9           A.     He was -- I don't know if he was a CAP  
10    member at that time or not, but he was a CAP member  
11    and also worked at -- was a professor at -- I  
12    believe it was Boston University School of Public  
13    Health.

14          Q.     And he's forwarding to three  
15    individuals, one of whom appears to be Jerry  
16    Ensminger, Mr. Ensminger, a statement in response  
17    to the National Research Council on Camp Lejeune.

18          A.     Right.

19          Q.     And then --

20                    MR. DEAN:  Actually you're miss -- just  
21    honestly, I see what you're doing, but you're  
22    misinterpreting how this occurred.  This is a post  
23    -- it's clear that this is a copy and post by J --  
24    Joe Anderson that went to Jerry Ensminger on July  
25    the 17th, 2009.  And he's pasting in the e-mail

1     that's below. Because if you go to the end of the  
2     e-mail, you will see J. Panglia -- I mean Joseph  
3     Anderson's signature at the end of the e-mail. So  
4     he did not -- this e-mail was not sent by Richard  
5     Clapp.

6                     MR. ANWAR: That's not where I'm going  
7     with this.

8                     MR. DEAN: Okay.

9                     MR. ANWAR: And I would appreciate if  
10    you don't --

11                    MR. DEAN: No, I just want to make sure  
12    -- you're misrepresenting who sent what e-mail.  
13    This -- but anyway, go ahead.

14    BY MR. ANWAR:

15                    Q.    What it appears to me -- and  
16    Mr. Maslia, if you understand it differently, I  
17    would appreciate hearing from the witness and  
18    letting the witness testify. There -- the chain  
19    above is certainly an e-mail dated June 17, 2009.  
20    It's from a Janderson@andersonpangia.com to a  
21    Jensminger@hotmail.com.

22                    A.    Right.

23                    Q.    And somewhere in the middle there, and  
24    we can find it if you need to, but it's on the  
25    right-hand side in the middle. There's

1 MMmaslia@CDC.gov.

2 A. Okay. I'll --

3 MR. DEAN: I see it.

4 THE WITNESS: Okay.

5 BY MR. ANWAR:

6 Q. My question for you was do you --  
7 Joseph Anderson was the lawyer that took your  
8 deposition in June 2010.

9 A. That is my recollection.

10 Q. Okay. And this is a year before your  
11 deposition and you're being copied on an e-mail by  
12 a lawyer -- a plaintiff's lawyer that took your  
13 deposition a year later. Do you know why you were  
14 copied on this e-mail?

15 A. No, I do not.

16 Q. Prior to your deposition in June 2010,  
17 had you ever spoken with Joseph Anderson?

18 A. No, I have not.

19 MR. DEAN: I also object on the record  
20 that this e-mail has not been produced by the DOJ  
21 in the manner which it originally existed. If you  
22 look at Bates stamp 34 -- let me finish.

23 MR. ANWAR: You can make your  
24 objection.

25 MR. DEAN: No, sir, you're

1 mischaracterizing that this is an e-mail and this  
2 is not an e-mail in the sense it's sent. If you  
3 look at 3486 --

4 MR. ANWAR: You're not entitled to  
5 testify.

6 MR. DEAN: Yes -- I'm not. I'm making  
7 an objection.

8 MR. ANWAR: If we need to call the  
9 magistrate and I get another hour for this  
10 deposition --

11 MR. DEAN: You are misrepresenting this  
12 e-mail. 34863, if you look at the last e-mail,  
13 EPA.gov at the top, then it is a conversation that  
14 ends in the second -- at the top of the second  
15 page, it says "outstanding, J." This is not the  
16 full chain of this e-mail and I object to your  
17 using this e-mail in the sense that you have.

18 MR. ANWAR: Great. You can make that  
19 objection in court.

20 MR. DEAN: Okay.

21 BY MR. ANWAR:

22 Q. Let's move on to the next exhibit dated  
23 October 26, 2009.

24 (DFT. EXHIBIT 18, e-mail correspondence  
25 Bates-stamped CLJA\_WATERMODELING\_01-09\_0000035889



1 and 35890, was marked for identification.)

2 MR. DEAN: Exhibit 18?

3 MR. ANWAR: Correct.

4 BY MR. ANWAR:

5 Q. And let me know when you see it.

6 MR. DEAN: Okay.

7 BY MR. ANWAR:

8 Q. Exhibit 18, if you -- at the top of the  
9 last e-mail on this chain is an e-mail dated  
10 October 26, 2009, so this is while the water  
11 modeling is still ongoing. It's an e-mail from  
12 Jerry Ensminger to you and it copies what appears  
13 to be a paralegal from the Bell Legal Group. And  
14 if you scroll down --

15 A. I'm sorry, Bell...

16 Q. If you scroll down to the bottom of the  
17 chain, there's an e-mail dated October 26, 2009.

18 A. Right.

19 Q. Do you see that?

20 A. From Elle Brigman.

21 Q. Correct, to Mr. Ensminger.

22 A. Right.

23 Q. And you're copied there?

24 A. Uh-huh.

25 Q. And it says "subject banner request."

1 And the e-mail states, from Elle, "hello, this is  
2 Elle. I just spoke with you on the phone. This  
3 e-mail is also carbon copied to Mr. Jerry."

4 Did I read that correctly?

5 A. Yes, yes.

6 Q. So you can let me know if you disagree,  
7 but the way I interpret that first two lines or  
8 three lines right there is that Elle Brigman is  
9 referring to speaking to you on the phone and he's  
10 -- he or her has copied this e-mail to  
11 Mr. Ensminger. Would you agree with that?

12 MR. DEAN: Object to the form of the  
13 question.

14 THE WITNESS: I don't recall at all who  
15 this is or, obviously, the e-mail you can --  
16 because it's got my e-mail address on there, but I  
17 just don't recall the topic or the subject matter  
18 or the person that sent it.

19 BY MR. ANWAR:

20 Q. So the rest of the e-mail reads, "Jerry  
21 first let me say, those boiled peanuts rocked. I  
22 had them on the way home", you know it's a  
23 personal --

24 A. Right.

25 Q. -- story about peanuts. The second

1 paragraph reads "anyway, the banner, slash, poster  
2 you have and showed us, we would like to have a  
3 copy for the city council meeting in December. I  
4 was not sure of the title of the items, so I wanted  
5 to ask you if it is a combination of various  
6 documents, which ones? Anyway, guidance would be  
7 great and thank you again for your knowledge and  
8 the boiled peanuts. I am sure I will be talking to  
9 you soon."

10 And again, since the request is for a  
11 banner, it appears to be directed at you. Would  
12 you agree with that?

13 MR. DEAN: Object to the form of the  
14 question.

15 THE WITNESS: I have -- I have no idea  
16 what banner the e-mail is referring to.

17 BY MR. ANWAR:

18 Q. Do you know why you -- so do you know  
19 who the Bell Legal Group is?

20 A. At that point?

21 Q. At that point or now, do you know who  
22 they are now?

23 A. Now I know who the Bell Legal Group --

24 Q. Who are they?

25 A. I've been retained for them as an

1 expert witness or expert consultant, okay?

2 Q. Is the Bell Legal Group the -- the lead  
3 counsel in this litigation? Are we sitting at the  
4 Bell Legal Group right now?

5 A. We're sitting at the Bell Legal Group  
6 offices. As to their responsibility or assignment,  
7 I've really not gotten into that, okay?

8 Q. So can you -- can you explain to me why  
9 you're being copied on e-mails as the water  
10 modeling is being performed --

11 A. Okay. Hold on.

12 Q. -- in 2009 with a paralegal from the  
13 Bell Legal Group?

14 A. Okay. Well, describing people and  
15 their positions that I have no knowledge of so,  
16 again, I just don't recall this e-mail. It,  
17 obviously, was received by -- by me.

18 Q. Do you like boiled peanuts?

19 A. I've had them.

20 Q. Is that something you would give as a  
21 gift?

22 A. Not if I want to still stay married to  
23 my wife.

24 Q. And then at the top of the chain  
25 Mr. Ensminger responds to you, "Morris, don't worry

1 about the poster. I'll let them use mine. They do  
2 not need all of the chapters for the Tarawa Terrace  
3 model. I gave them Chapter A, but they need the  
4 entire report."

5 Did I read that correctly?

6 A. Can you scroll down? I mean -- or up  
7 probably for you. You read that correctly. Again,  
8 I do not know what banner or poster they are  
9 referring to.

10 Q. Okay. Let's move to exhibit -- what  
11 we'll call 19.

12 (DFT. EXHIBIT 19, e-mail correspondence  
13 Bates-stamped CJLA\_WATERMODELING\_01-09\_000003613,  
14 were marked for identification.)

15 BY MR. ANWAR:

16 Q. It is an e-mail communication dated  
17 January 21, 2010. Let me know when you see it.

18 MR. DEAN: Okay.

19 BY MR. ANWAR:

20 Q. This is an e-mail communication dated  
21 December 16, 2009. The subject is "CAP meeting,  
22 January 21, 2010", and it's an e-mail from an  
23 individual named Vanessa Bertka to you, Mr. Maslia.  
24 Would you agree with that?

25 A. Yes.

1 Q. Okay. In the body of the e-mail --  
2 well, let me start -- the -- at the bottom of the  
3 e-mail Vanessa Bertka is identified as a paralegal  
4 for the Bell Legal Group, correct?

5 A. That is correct.

6 Q. And the e-mail states, "Mr. Maslia, I  
7 write in regard to the CAP meeting currently set  
8 for January 21, 2010. I would like to know how we  
9 go about getting an invite into this meeting.  
10 Please contact me at your earliest convenience."

11 Did I read that correctly?

12 A. Yes.

13 Q. Do you recall this e-mail exchange with  
14 Ms. Bertka?

15 A. No, I do not.

16 Q. Did you have a conversation with  
17 Ms. Bertka?

18 A. Not that I recall.

19 Q. Not that you recall. Did you extend an  
20 invitation to the Bell Legal Group to the CAP  
21 meeting set for January 21, 2010?

22 A. That would not have been in my job  
23 assignment. It could have been agency leadership.  
24 It could have been other people, but I really did  
25 not deal at all with extending or inviting people

1 to CAP meetings.

2 Q. That e-mail goes on to state, "as I  
3 understand, you are on vacation at this time. I  
4 hope you and your family have a Merry Christmas and  
5 Happy New Year." Does -- do you have any  
6 understanding of how she knew you were on vacation  
7 at that time?

8 A. No, I do not. Nor do I celebrate  
9 Christmas.

10 Q. Fair enough. Let's pull up -- let's  
11 pull up the next e-mail April 13, 2020. You should  
12 be seeing --

13 MR. DEAN: We're good.

14 BY MR. ANWAR:

15 Q. -- what we're marking as Exhibit 20.

16 A. Okay.

17 (DFT. EXHIBIT 20, e-mail correspondence  
18 Bates-stamped CLJA\_WATERMODELING\_010000074373  
19 through 74375, was marked for identification.)

20 BY MR. ANWAR:

21 Q. This is an e-mail exchange. The very  
22 bottom of it is dated April 13th, 2010.

23 A. Right.

24 Q. It doesn't look like you're copied on  
25 the bottom of the e-mail circulating --

1 A. I'm copied on the top of the e-mail.

2 Q. Correct.

3 A. Okay.

4 Q. But I was just referring back for  
5 context.

6 A. Okay.

7 Q. And then you end up being copied at the  
8 top of the e-mail?

9 A. Right.

10 Q. And the e-mail is from Frank Bove and  
11 -- to a group of individuals at ATSDR --

12 A. Right.

13 Q. -- and you and Barbara Rogers are  
14 copied, correct?

15 A. Right.

16 Q. Okay. And so the -- the top of the  
17 e-mail is dated April 13, 2010, right?

18 A. That's correct, yes.

19 Q. And so the e-mail states "I can  
20 guarantee that the CAP meeting will be a complete  
21 chaos if Jerry's presentation is left off the  
22 agenda. All the CAP community members have  
23 endorsed the previous draft agenda, which Jerry had  
24 on -- which had Jerry on for one hour. I have  
25 negotiated with Jerry to reduce his presentation to



1 30 minutes. Morris and I will work with him to  
2 make sure his presentation is tight and he does not  
3 exceed his time unless he gets questions.

4 The previous agenda was developed by  
5 Perri and myself. We know what works and the  
6 agenda reflects our best judgment on the issues the  
7 CAP meeting needs to cover and the appropriate  
8 orders -- order of the issues, i.e. Jerry's  
9 presentation following Morris's update after the  
10 morning break period.

11 Given my over 40 years as a political  
12 activist just like Jerry, as well as my seven years  
13 as a full-time community organizer, I think I have  
14 the experience necessary to know what will work and  
15 what won't work when it comes to community meetings  
16 like the CAP. This CAP has been a model for other  
17 CAPs to follow. It has been extremely successful  
18 publicizing the issues. It has provided valuable  
19 comments to our water modeling work and our epi  
20 studies. It has been instrumental in getting  
21 funding and in general has been a model for  
22 successful community participation. ATSDR has  
23 gained public trust, media trust, congressional  
24 support through the efforts of the CAP."

25 Let me stop right there. Did I read

1     that correctly?

2             A.     Yes, you read that correctly.

3             Q.     Do you recall this particular, I guess,  
4     incident or incidents situation that he's  
5     describing?

6             A.     Not this specific one.

7             Q.     What is your understanding of what's  
8     being said in the e-mail?

9             MR. DEAN:   Object to the form of the  
10     question.

11             THE WITNESS:   My understanding is that  
12     Mr. Ensminger was allotted a certain amount of time  
13     to make a presentation at the CAP meeting.  
14     Someone, and I don't know who, but someone who  
15     reviewed the agenda took him off of there, okay?  
16     And I'm sure that met with displeasure. And so  
17     it's an e-mail to explain why he should be put back  
18     on the agenda.

19             Q.     And the e-mail starts out, "I can  
20     guarantee that the CAP meeting will be complete  
21     chaos if Jerry's presentation is left off the  
22     agenda." Do you recall what Frank Bove was  
23     referring to here?

24             A.     No, I do not. Again, I was never  
25     directly involved with the administration or the

1 logistics of CAP meetings. I was simply invited  
2 there as an ATSDR's technical expert in water  
3 modeling.

4 Q. The middle of the e-mail says -- and  
5 this is Dr. Bove speaking, "given my over 40 years  
6 as a political activist just like Jerry, as well as  
7 my seven years as a full-time community organizer."  
8 Would you -- do you -- do you know Dr. Bove to be a  
9 political activist?

10 A. Yes.

11 Q. And how so?

12 A. Oh, he will tell anyone who asks him  
13 that, that he is a community organizer and a  
14 political activist. I mean, he does not hide it,  
15 in other words. I have not seen him in action,  
16 okay, but I know he'll, you know, work with  
17 community organizations based on whatever  
18 political, you know, opinions they may need or may  
19 want. And he -- I mean, he has stated, you know,  
20 directly to me and others that he is a community  
21 organizer.

22 Q. Do you know Dr. Bove to be a political  
23 activist as it relates to Camp Lejeune?

24 MR. DEAN: Object to the form of the  
25 question.

1           THE WITNESS: I never observed any  
2 political activist activity on his part with  
3 respect to Camp Lejeune. He was passionate about  
4 -- from the scientific standpoint in getting  
5 funding, getting and providing community members  
6 with transparent information.

7 BY MR. ANWAR:

8           Q. And then he says "I'm a political  
9 activist just like Jerry." I think earlier you  
10 agreed, do you understand or do you know  
11 Mr. Ensminger to be a political activist?

12           MR. DEAN: Object to the form of the  
13 question.

14           THE WITNESS: I have not been observed  
15 or been told about Mr. Ensminger being, you know, a  
16 political activist. Like, Dr. Bove had told me  
17 directly, so it's not been told to me directly by  
18 Mr. Ensminger that's what he is, but obviously the  
19 Janey Ensminger Act got signed, okay, and so that  
20 would take some amount of political activism to get  
21 that done.

22 BY MR. ANWAR:

23           Q. Do you consider yourself an activist?

24           A. No, I do not.

25           Q. The -- the first sentence of the second

1 paragraph says "I've heard that a congressional  
2 staffer from Miller's office is considering  
3 personally attending the CAP meeting."

4 Do you know who Dr. Bove is referring  
5 to when he says Miller's office?

6 A. No, I do not.

7 Q. During your time at ATSDR and sort of  
8 involvement with the CAP and attendance to CAP  
9 meetings, has a congressional staffer ever attended  
10 a CAP meeting that you've attended?

11 A. I don't -- I don't recall a  
12 congressional staffer at a CAP meeting, but then  
13 again, I did not attend all sessions of each CAP  
14 meeting, okay? In other words, when they got into  
15 the health studies or some agency budgetary issues  
16 maybe towards the end of a CAP meeting, you know, I  
17 was not needed there, so I can't say if there were  
18 congressional people there or not, but during the  
19 time that I made presentations at the CAP, there  
20 were no congressional representatives there, or  
21 staffers.

22 Q. Okay. Should be appearing shortly what  
23 we're marking as Exhibit 21.

24 (DFT. EXHIBIT 21, e-mail correspondence  
25 Bates-stamped CL\_MASLIA\_0000000173 and 174, was

1 marked for identification.)

2 BY MR. ANWAR:

3 Q. Do you see that e-mail in front of you?

4 MR. DEAN: Yes.

5 THE WITNESS: Yes.

6 BY MR. ANWAR:

7 Q. Okay. So the top of the chain is from  
8 you to Mr. Ensminger. It's dated July 13, 2022.  
9 The start of the chain is an e-mail from you to  
10 Mr. Ensminger. It's dated July 12th, 2022. So  
11 let's -- let's start at the bottom of the chain.  
12 It says there -- and is that your e-mail address,  
13 H2Oboy54@gmail.com?

14 A. That's, yes, my e-mail address.

15 Q. Okay. And the e-mail is dated  
16 July 2012 -- or July 12, 2022, correct, to Jerry  
17 Ensminger?

18 A. Right.

19 Q. And it is a -- it appears to be an  
20 e-mail of you passing along a published article to  
21 Mr. Ensminger about Camp Lejeune; is that right?

22 A. That is correct.

23 Q. Okay. And then at the bottom of the  
24 e-mail you say "also I have been contacted by  
25 another law firm about Camp Lejeune. No

1 discussions yet, but just wanted to give you a  
2 heads-up." Did I read that correctly?

3 A. That is correct.

4 Q. Why did you want to give Mr. Ensminger  
5 a heads-up?

6 A. Some -- somewhere and I don't recall  
7 where, but, I mean, it was during this time frame  
8 he had asked me would I be interested in doing  
9 consulting work as an expert. And he said, I know  
10 of a law firm that may be interested in your  
11 services. I said, fine, give them my name, I can  
12 send them my CV or resume.

13 And then I was also contacted by  
14 another law firm. I don't recall the name at this  
15 time. I don't know where they got my name from,  
16 but maybe from the reports or wherever. And so  
17 just thought I would let him know that, you know,  
18 business was hopping.

19 Q. The chain goes on to a response from  
20 Mr. Ensminger dated July 13th, 2022. It states,  
21 "Morris, please don't take any meeting with other  
22 law firm until you meet with Ed Bell. The bill  
23 hadn't passed Congress yet, let alone being signed  
24 into law by the POTUS. I will see if I can get Ed  
25 to give you a call today, Jerry."

1 Did I read that correctly?

2 A. Yes.

3 Q. And then the top of the chain, the last  
4 chain, is a response to Mr. Ensminger's e-mail,  
5 "spoke with Kevin who works with Ed Bell this  
6 morning. They will be sending me a retainer form  
7 to sign."

8 Did I read that correctly?

9 A. Yes.

10 Q. Okay. And when you're referring to  
11 Kevin there, are you referring to Mr. Dean, here  
12 today?

13 A. Yes.

14 MR. DEAN: Not another one.

15 BY MR. ANWAR:

16 Q. And I understand that you were retained  
17 as an expert around July -- or June/July 2022,  
18 correct?

19 A. July. Mid July, 2022, yes, that's  
20 correct.

21 Q. My -- how -- how long have you known Ed  
22 Bell or professionals at the Bell Legal Group?

23 A. Professionally since July -- well,  
24 yeah, July of 2022.

25 Q. Okay. What about personally?



1           A.    I was introduced to him -- I think it  
2   was earlier in 2022 maybe.  There was a CAP meeting  
3   in Atlanta and there was a restaurant down in the  
4   Atlanta area, and I was introduced to him.  Not his  
5   capacity or anything, but just as Ed Bell.

6           Q.    How long have you known Mr. Ensminger?

7           A.    I became aware of him sometimes during  
8   the final stages of perhaps the Tarawa Terrace  
9   modeling activities.

10          Q.    So roughly 2008/2009?

11          A.    Yes, somewhere around there.  Maybe a  
12   little before because he was a member of the CAP  
13   and we would make presentations to the CAP and they  
14   would have his nametag, you know, there.

15          Q.    Do you consider Mr. Ensminger a friend?

16          A.    No.

17          Q.    When is the last time you've  
18   communicated with him?

19          A.    I think you brought up an e-mail  
20   earlier where I forwarded an e-mail from  
21   Mr. Ensminger to Mr. Dean.

22          Q.    Okay.

23          A.    This -- I don't recall the date, but  
24   that's the last time.

25          Q.    You should be seeing what is being

1 marked as Exhibit 23, I believe. Sorry. Sorry.

2 22. Clarification for the record.

3 (DFT. EXHIBIT 22, e-mail correspondence  
4 Bates-stamped CL\_MASLIA\_0000000487, was marked for  
5 identification.)

6 BY MR. ANWAR:

7 Q. It is an October 4th, 2023 e-mail from  
8 you to Mr. Ensminger.

9 A. Right.

10 Q. And it appears that you're attaching  
11 photos from an award that you won in 2015?

12 A. Right.

13 Q. I was just curious or wondering, why  
14 were you sending photos of your award to  
15 Mr. Ensminger?

16 A. He had e-mailed me or called me and  
17 wanted to know if I had available the photos of the  
18 presentations from the award that we -- my team  
19 received from the American Association of  
20 Environmental Engineers and Scientists in 2015.  
21 And that's public information, so...

22 Q. Okay. We can take that exhibit down.

23 My understanding is the most recent --  
24 are you familiar with -- let me back up for a  
25 second. Are you familiar with the recent cancer

1 incidence study that was published by ATSDR?

2 A. I have a copy of it, yes.

3 Q. Are you familiar with the mortality  
4 study related to Camp Lejeune?

5 A. I'm familiar with the journal articles.

6 Q. Okay. Well --

7 A. Not the nuts and bolts of it, not being  
8 a epidemiologist.

9 Q. Let's just focus on the cancer  
10 incidence study. My understanding is that study  
11 does not -- and a couple -- at least one other of  
12 the more recent studies does not rely on the Camp  
13 Lejeune water modeling for any sort of exposure  
14 response analysis. Do you know why that is?

15 A. You would have to speak to Dr. Bove who  
16 authored that study. He was -- once I retired from  
17 ATSDR, we were not in communication other than  
18 maybe having a lunch occasionally. But in terms of  
19 conducting any studies he was working on at ATSDR,  
20 I was not solicited for information nor privy to  
21 decisions that he made as to why he was making them  
22 and...

23 Q. Are you represented by counsel today?

24 A. I'm here being deposed as a fact  
25 witness.

1 Q. Are the lawyers, Mr. Dean and  
2 Ms. Baughman, on the other side of the table, are  
3 they representing you here at this deposition  
4 today?

5 MR. DEAN: Object to --

6 MS. BAUGHMAN: Object to the form.

7 THE WITNESS: I don't believe they're  
8 representing me. I'm an expert consultant for them  
9 or to -- for the firm. I have no attorney  
10 representing me at this deposition.

11 BY MR. ANWAR:

12 Q. What led you to decide to serve as a  
13 consultant in this litigation?

14 A. I felt all along -- and this goes back  
15 to when I was in ATSDR and the whole NRC report  
16 issue came up, being critical of our work, and I  
17 felt, and I was proved right, that the Department  
18 of Navy, which you said is the pinnacle of science,  
19 okay, which we disagreed with. And so as time --  
20 time went on, I felt that perhaps an -- attorneys  
21 representing plaintiffs could use someone with my  
22 technical and scientific abilities to interpret the  
23 highly technical reports that we produced and if  
24 there were questions as to why there were  
25 differences between the NRC report and the ATSDR

1 reports, I could be valuable to them.

2 Q. Earlier we discussed the Navy critique.  
3 Do you recall that discussion?

4 A. Yes.

5 Q. Of the -- the Camp Lejeune or the  
6 Tarawa Terrace?

7 A. Okay. Weather service, tornado  
8 warning.

9 MS. BAUGHMAN: This is an interior  
10 room. We're probably fine.

11 MR. DEAN: Keep going. You've got five  
12 more minutes anyway.

13 MR. ANWAR: Yeah, no, I hear you.

14 BY MR. ANWAR:

15 Q. So earlier we discussed the -- the Navy  
16 critique of the Camp Lejeune water modeling,  
17 correct?

18 A. Yes, that is correct.

19 Q. And my recollection of the critique was  
20 -- and we discussed it earlier, was they had an  
21 issue with the calibration of the model and whether  
22 the -- whether the --

23 MS. BAUGHMAN: If we all turn our  
24 phones off.

25 MR. DEAN: Yeah, if you turn off your

1 phones, you know, it's not going to do that.

2 BY MR. ANWAR:

3 Q. My recollection of their critique --  
4 Goddamn it.

5 MR. DEAN: You've got notifications on  
6 the -- on the -- if you turn off all alerts it  
7 will...

8 BY MR. ANWAR:

9 Q. -- took issue with the calibration and  
10 the sensitivity analysis relied upon in the model;  
11 is that fair?

12 MS. BAUGHMAN: Object to the form.

13 Q. Okay. We don't need to quibble about  
14 what they took issue with, but they took issue with  
15 the -- the reliability of the modeling, fair?

16 MR. DEAN: Object to the form.

17 THE WITNESS: Again, I would not  
18 consider that's what they took issue with.

19 BY MR. ANWAR:

20 Q. Are you familiar with -- do you know  
21 who Dan Waddell is?

22 A. Yes, I do.

23 Q. What is your relationship with  
24 Mr. Waddell?

25 A. He's a -- employed at least at the time

1     that I remember him, NFEC, which is the Naval  
2     Facilities Engineering Command, and he also made a  
3     statement or presented a statement at one of the  
4     expert panel meetings that we had at ATSDR.

5             Q.     Okay. Was --

6             A.     And we -- and there -- let me just  
7     add -- we don't need to go look through them. I  
8     think there's a couple of e-mails between him and  
9     me.

10            Q.     Okay. Let's leave it at the Navy  
11     critiqued the Camp Lejeune water modeling, the  
12     Tarawa Terrace model, correct?

13            A.     That's correct.

14            Q.     And the NRC, the National Research  
15     Council, an arm of the National Academy of Science,  
16     also critiqued the Tawara Terrace water modeling,  
17     correct?

18            A.     Correct.

19            Q.     And then Dr. Clement, who I think at  
20     one time you referred to as unbiased, published an  
21     article sort of raising the question about whether  
22     hind -- or reconstruction efforts are -- have  
23     value. My question to you is, of those -- just  
24     those three people or organizations that have  
25     critiqued the model, is there any aspect of their

1 critique, their scientific critique, with which you  
2 believe is valid?

3 MR. DEAN: Object to the form of the  
4 question.

5 THE WITNESS: First I would like to  
6 respond by first saying we responded to the Navy's  
7 critique and it's officially on the ATSDR website  
8 available for anyone to read and, I believe, we  
9 responded point by point. That's typically what's  
10 done in scientific discourse is -- whether you  
11 publish a paper or --

12 BY MR. ANWAR:

13 Q. And my question is whether -- not  
14 whether you responded. My question is --

15 A. Well, we didn't have -- my point is we  
16 did not have an official opportunity to respond to  
17 the NRC report, okay? And I think you need to take  
18 the responses and -- and evaluate our responses,  
19 okay?

20 Q. And I'm asking you, as you sit here  
21 today --

22 A. Right.

23 Q. Well, let's say, I'm asking you not in  
24 your capacity as working for the plaintiffs, but  
25 I'm asking you in your capacity as a fact witness



1 that has worked on the Camp Lejeune water modeling  
2 for, you know, more than a decade, who did work, is  
3 there any aspect of the criticism or the -- that  
4 the model received that you believe is valid?

5 MR. DEAN: Object to the form. You're  
6 asking him for his personal opinion. His work is  
7 not yet completed on this case nor has he issued a  
8 report and reserves the right -- or we reserve the  
9 right, and the witness does, to address any issue  
10 needed in the report.

11 MS. BAUGHMAN: It's also a compound  
12 question.

13 BY MR. ANWAR:

14 Q. You can answer the question.

15 A. Okay. NRC suggested using simpler  
16 modeling approaches. We actually accepted that and  
17 did that for Hadnot Point. On the other hand, they  
18 critiqued us for not using more complex  
19 biodegradation. You can't have it both ways, okay,  
20 so, again -- but we did with NRC recommendation  
21 that we try some simpler modeling approaches. We  
22 accepted that, okay, for Hadnot Point.

23 MR. ANWAR: I believe I have one minute  
24 left. I will -- I think that's -- that's all I  
25 have for today. As I understand that you -- you

1 will be testifying in this case, I'm sure we'll  
2 meet again, so nice to meet you and thank you for  
3 your time.

4 THE WITNESS: Thank you.

5 MR. DEAN: Okay. I need a little bit  
6 of a break to use the restroom, confer with my --  
7 and then we've got a few questions.

8 THE VIDEOGRAPHER: Going off the  
9 record. The time is 5:49 p.m.

10 (A recess transpired.)

11 THE VIDEOGRAPHER: Going back on the  
12 record. The time is 5:59 p.m.

13 MR. DEAN: Okay. Giovanni, I don't  
14 need it right at the moment, but I sent you one  
15 exhibit. If you don't mind dropping it in the  
16 folder.

17 MR. ANTONUCCI: Oh, sure.

18 MR. DEAN: And if you want to -- what  
19 was the last exhibit number?

20 MS. BAUGHMAN: 22.

21 MR. DEAN: So you want to call it 23?

22 MR. ANWAR: However you want to --

23 MR. DEAN: Yeah, whatever is next. I'm  
24 fine just using consecutive numbers.

25 MR. ANWAR: Okay. Do we want to close

1     that?

2                     MR. DEAN:    Okay.

3                     MR. ANWAR:   You said you sent the  
4     exhibit?

5                     MR. ANTONUCCI:  I have it.

6                     MR. DEAN:    Yeah, I sent it to you.

7                                     EXAMINATION

8     BY MR. DEAN:

9                     Q.     So let's go, Mr. Maslia, to Exhibit  
10    No. 6.  Let's see here.  All right.  Do you  
11    remember Exhibit No. 6?

12                    A.     Yes.  Sorry I'm...

13                    Q.     That's okay.  And it indicates that  
14    this is a printoff of a webpage created -- last  
15    updated, it says, September the 18th of 2024 --

16                    A.     Right.

17                    Q.     -- at 3:02 p.m. at the top.  Do you see  
18    that?

19                    A.     Yes, I do.

20                    Q.     Were you working with the ATSDR in  
21    September of '24?

22                    A.     No, I was not.

23                    Q.     Did you have any involvement in  
24    creating the information that is on Exhibit 6?

25                    A.     None whatsoever.

1 Q. Did anybody call since your requirement  
2 in 2017 and ask you to assist or consult with them  
3 about what ATSDR puts on its website in 2024?

4 A. No.

5 Q. Now, on Exhibit 6 there's a statement  
6 in the second full paragraph where it begins  
7 "treatment water distribution plants." Do you see  
8 that?

9 A. Yes, I do.

10 Q. And you were asked this by counsel  
11 earlier. At the end of that paragraph it says,  
12 quote, other on-base treatment plants were not  
13 contaminated." Do you see that?

14 A. Yes.

15 Q. It is true that the work done by ATSD  
16 [sic] water modeling professionals including  
17 yourself were operating under contracts that were  
18 being funded by the Navy for the work to be done?

19 A. Yes.

20 Q. Is that correct?

21 A. That's correct.

22 Q. Did ATSDR, between 2003 and the time  
23 you left in 2017, ever receive any funding --  
24 funding and conduct any activities to evaluate  
25 contamination at any water treatment plants other

1     than the three reported in all of the reports we  
2     have here today?

3             A.     Not that I'm aware of.

4             Q.     You yourself never personally evaluated  
5     whether or not any of the other treatment plants  
6     were not contaminated, correct?

7             A.     That is correct.

8             Q.     Now, you answered a question earlier on  
9     in the deposition. I just want to clarify  
10    something and if Mr. Anwar has any follow-up  
11    questions. He asked you whether or not you met  
12    with anyone yesterday or what you did to prepare  
13    for your deposition, something along those lines.  
14    Do you remember that?

15            A.     Yes.

16            Q.     At my request, did you fly in Tuesday  
17    night to work on a proposed expert report and we  
18    met in this office yesterday?

19            A.     Yes, that is correct.

20            Q.     From time to time, whether it be a  
21    break or at lunch or from time to time about your  
22    attire, did you and I have some informal discussion  
23    about the timing and participation in today's  
24    deposition?

25            A.     Yes, we had a discussion about the

1 logistics of today's deposition.

2 Q. All right. Now, I want to show you  
3 Exhibit No. 7. This Exhibit 7 is Bates-stamped  
4 COJ, underscore, water modeling, underscore, 13764.  
5 Do you see that?

6 A. Yes, I do.

7 Q. And it has a CDC sticker at the bottom  
8 right-hand corner. Do you see that?

9 A. Yes, the banner at the bottom, yes, I  
10 do.

11 Q. And I believe you testified you've  
12 never seen this PowerPoint before, right?

13 A. That is correct.

14 Q. Do you know whether or not this  
15 PowerPoint was created by anybody at ATSDR?

16 A. It wasn't created by anybody from the  
17 technical water modeling staff. I can tell by the  
18 language used or the verbiage used in there, but I  
19 don't know who created it, whether it was ATSDR or  
20 CDC or...

21 Q. Okay. And that's because some of the  
22 information, which you went over with counsel, is  
23 inaccurate?

24 A. That is correct.

25 Q. Okay. So I'm going to show you Exhibit

1 No. 22.

2 MR. DEAN: And Giovanni, do you mind  
3 dropping that exhibit in the folder, please.

4 MR. ANWAR: So it's been dropped into  
5 the folder and it's labeled Plaintiff's Exhibit 1.

6 MR. DEAN: Oh, let's see if I can find  
7 it. And the other -- it's just a suggestion, it's  
8 up to you, you might want to delete the ones that  
9 were not marked as exhibits so the court reporter  
10 can pull them up. Now, is it the one that says EX  
11 to EX7 metadata file, or did you call it  
12 Plaintiff's Exhibit?

13 MR. ANTONUCCI: I introduced it as  
14 Plaintiff's Exhibit 001 documents.

15 MR. DEAN: Okay. I see it. Got it.  
16 Thank you.

17 (PLF. EXHIBIT 1, screenshot of  
18 PowerPoint slide entitled CDC 24/7 Camp Lejeune  
19 Summary 2014, was marked for identification.)

20 BY MR. DEAN:

21 Q. All right. I want to show you  
22 Plaintiff's Exhibit to your deposition, Number 1.  
23 Do you see the --

24 A. Yes.

25 Q. -- screenshot?

1 A. Yes, I do.

2 Q. I'll represent to you during the  
3 deposition I went and located the native version of  
4 this document that council showed you, which is  
5 Exhibit No. 7, and I have a screenshot on the  
6 screen of that exhibit. Do you see that?

7 A. Yes.

8 Q. Do you recognize that as the same Bates  
9 stamp and the same page that was on Exhibit 7?

10 A. Yes.

11 Q. Now if you look in the right-hand  
12 corner, do you see that the author of the document  
13 -- well, first of all, do you see it was created  
14 December the 9th of 2014?

15 A. Yes, I see that now.

16 Q. Do you see that the author of the  
17 document is a lady named Barbara Reynolds?

18 A. Yes.

19 Q. Do you see that she was working for a  
20 company, CDC? Do you see it? Beside "company" it  
21 says CDC.

22 A. I'm looking for "company", which I  
23 don't -- oh, company, CDC.

24 Q. Do you see that?

25 A. Yes, I do.



1           Q.    Do you know who Mrs. Barbara Reynolds  
2    is?

3           A.    No, I do not.

4           Q.    Have you ever heard of her?

5           A.    No.

6           Q.    I'm not going to mark this as an  
7    exhibit unless you want me to.

8                   MR. ANWAR:  What is it?

9                   MR. DEAN:  Something we used to  
10   identify who Ms. Barbara Reynolds is.

11                  MR. ANWAR:  Okay.

12                  MR. DEAN:  I mean, I'll mark the page  
13   as a separate --

14   BY MR. DEAN:

15           Q.    Are you aware that Barbara Reynolds,  
16   the lady that is listed in that document creating  
17   that PowerPoint December of 2014, formerly worked  
18   with the CDC and she was the senior communications  
19   and crisis advisor to the Center for Disease  
20   Control?  Did you know that?

21           A.    No, I do not.

22           Q.    So the PowerPoint you were shown  
23   earlier and any questions that may or may not have  
24   suggested who -- the creator of that document,  
25   would you agree with me that document was not an

1 ATSDR-created document, it was created by the CDC  
2 and Ms. Reynolds, a media senior crisis advisor?

3 MR. ANWAR: Object to form.

4 THE WITNESS: Yes, it was not created  
5 by people that I knew -- well, during 2014 I was at  
6 ATSDR and that never came through for either review  
7 or occurrence or any comments.

8 MR. DEAN: All right. Mr. Maslia,  
9 thank you for your time today.

10 THE WITNESS: Thank you.

11 MR. ANWAR: Thank you for your time.

12 THE VIDEOGRAPHER: That ends this  
13 deposition. The time is 6:07 p.m.

14 (The witness, after having been advised  
15 of his right to read and sign this transcript, does  
16 not waive that right.)  
17  
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CERTIFICATE OF REPORTER

I, Lauren A. Balogh, Registered Professional Reporter and Notary Public for the State of South Carolina at Large, do hereby certify that the foregoing transcript is a true, accurate, and complete record.

I further certify that I am neither related to nor counsel for any party to the cause pending or interested in the events thereof.

Witness my hand, I have hereunto affixed my official seal this 29th day of September, 2024 at Murrells Inlet, Horry County, South Carolina.



Lauren A. Balogh

My Commission expires

March 19, 2030

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